

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

5 GATCTTCAAA TGGGACAAAT GCAAGGCTAT TGATCTTATT CCCAGCAAAC AAGTGCGACA 60  
 TGTATGGTGT ATTTTGTGTG GGCAACCGAC TGCTGGTGAA AACGGGCTTA AAATCTGACC 120  
 TAGTTTAAAG GGCATCCTTC CAAAGTGTCA CATGTGTGTC TCTCGACACT GCAAGCAAGC 180  
 10 CCATGTCAGA GATTTTCACA TTGCTTGCTG GTATAGGCAG GTTTTCAACG GAATGTAACT 240  
 CCTTGAAGTT CCTGATATCC CACAGTCTCA TGGACTTATC TGCTCCGGTN TGTAGCCATA 300  
 TAGTAACCTT GCTATCTAC CGCGACACCA GTGACGGGCC CGGTACC 347

## (2) INFORMATION FOR SEQ ID NO:59:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 673 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG101712

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

30 GATCTTCTTG GCGTGGGCA TCAGACAGGC GTAACAAAT TGATCATTCC TGGTGGGGT 60  
 GAGGCTAACT ATGATGCATT GGAAGTTAAT CCTTACGAGA CGACGAAGCA AAGGAAAGAG 120  
 CAGGAGGTTA GATCGCTACT GAACAAATTA CCTGCTGATT CTATTCGATT AGATCCAAAT 180  
 35 GTGATTGGTA CGGTGACAA GCGTCTGCG CAGATTAGAT TGACCCCAA AGACCTGACC 240  
 CAAATCGCAA CTGATGAAGA CATGAAATCT AAGGAGAATA GAGACATTCC AAAAGCAAAC 300  
 CCTGCTGTGA AGAGTAAGAA ATTCAAGTCT GGTACATTC CTCGTGAAGA AGACCGAGAA 360  
 40 TGTGTAGAT GAGAGGAAGT TGAGAGTACA GAAGCAGTTA GAAAACGAAA AGGNGCCCN 420  
 CTTGGGAAG CACANGCTG CTGAGNGAG CTANCAGNAG ATNCGANCIN CCTGNGAN 480  
 GGTGAGCNA GTCCACTGCG NNINNNCTCA CCNNNNATTC TTGTTNNNN GANPTCAGNC 540  
 45 CANNNNCTT CCGNNNNNN NNCTTNNNN NNCTNNNNN ACCNNNNNN TCCNNNNNTT 600  
 NNNCCAGNC CCCCNCNCC NNNCCNNNN CCNNNNNNN NNNNNCCCC CTCTNNCCCN 660  
 NCCCCCCTT NCC 673

## (2) INFORMATION FOR SEQ ID NO:60:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 523 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

500



(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1017RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

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10  GATCAAGGTT GAAAACGAGC AGCGTGATAA AAAAGAGCAT GACCCCGATG TCCCTGAAGA      60
    GGAATTTAAG ATTAAATATA CCTCGACCTA CTATAAGGTT GAGAATATGA CCGTGCTAGT      120
    ACCACAGCAA TTAAATATA TTGCATTTC AAGGATGAG AGATTACTC CCGCTCCAA      180
15  GTTTAAGGTT AGCAATGGCG TTATAGTCT ATCGGACAAA ACTCTGACG AGCCGGTGA      240
    AGTAATCAAA ACCGCTAGAC AGGAAAAGA GACGGATGCT CCTCTGCTG CTCCCTTCAA      300
    GGTTCAGGAT GACTTAGAAT TCTGAACGA TAATTAGGAA GCGTCGATTA TGTTCAATTAG      360
20  GAAAAAGGTT ATTTTTCCTA GAAACGAAAG AACTTACTGA TTGCAGCTCT CTCTAAACAA      420
    GTATATTATG AGGTGATTTA TTTCAACTGA ATCTGGCTAA CGCCCGGCAA CTAGGTCTTA      480
    TCTTCTGTGA GTACCCCTAG AGGTGGTGT CCCCAANCG CNC                          523

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(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 493 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1017UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

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40  GATCTCATC CAGGTTTGG CCTCGTCTCT GAGCTCTCT GTGACTTCAT CCTTGATACG      60
    CGCAATTAAG CCAGGCTCT TGTATGGTA CGCAGTGTAG AGTTGCACAA AGTGGGCCCC      120
    CGCTTTGGCA AACTCGATGG CATCTGGCC ACTACTGATA CCACCACATC CAACCAAAAC      180
    CAGGTTGGTG TCTTTGTGT ATTGGTGTAT CGTGGGCAA GCTTTTAGCG CAAATGGTTT      240
45  CACGGGCTTG GCGGACAAGC CGCTGCTG GTTTTTCAGC TCTTCATGA CAGTGTACAG      300
    CGAGTCTGCC CTTTGATAG TAGTGTGGG AAACGATGAT ACCCCCAATA CTGATTTTC      360
    TTGGGCGGCC TCTGGATCG ATTGGAATCC TGGCTGGTC AAATCCGGTG CGATTTTAAC      420
50  AGGAAAGTTG GTATGTTA CTGGACCAAG AAAATGCCNC CGTGGNCAA GATTGGGTTA      480
    GCANAACAAG NIN                          493

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(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 523 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1018RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

GATCATCGTC GAGGAGTACA CGCACTCGCT CTGGCGGTGC GTGAACCTTCG CCGCGTGACA	60
CCCGTACTTC TTGAGGCCA CCGTGTTCAG GAACCGGCAC CCGGCGCGGT CGTACAGGTG	120
CATGTGTGTC CACGCGGTTC CGCTCAGAAG GTACTGTCCA TGGTCGTGCA ACGACAGCGA	180
CGTGATCGGG CCGTGTTCCT TCTGGGCAC CTTGAAAGAC TTGACCGGCC GGAACCCCGC	240
CAATGTGTCT TTGTGATCC CGATACTCAT CCGCTCGTC TTGCAGCTTC CCGTCCTTGG	300
CCCTCTGGCC GCTGCTCTGC ACTGCTGGCT AGCAGAGCTC ACCAAAATTT TTATAGCCAT	360
GGCCAGGCCA AACTTCACTA ACTGGGGAAC CACACGACCA CAGCAAGCAA TGCCCTCAGT	420
ATGTGGGTGC GTCCACCGT CCGGGGATCG CTACTAACCC GCACAGCTCA AGCAGATGGT	480
GCACTTCAGC GCGACCTCG CGCTGGTGGC GATGGTGCTG GCC	523

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 770 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1018UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

GATCGCGTGT ACGACTTCAT GCGGATGCAC TACGTTATCA CCCAGATGGT GGTGCGGGCC	60
GACTTTCCGT TCATGCCGGA CTACCTGGAG GTCTTGCGC GCGCGCTGCA GCAACACGAG	120
TTGTGCGATG CCGCATGTC TGCCGCTGTG CAACGGGACC ACATTGCGCG ATACACCGAG	180
CTGCTGATGC TGTATCGCG GAAGTCTGGG GATGAGAAAA TGCTGGCGGA GCTCTTTGCC	240
TCCTTGGTGC ATAGTCTGCC TCGCGGGATG GCGGAGCCA CTCTTGCTCA GGCATTGCAT	300
GAAGTCATGA CGTACCTGAT CAGCGAAAC CAGCCGCAAC AGGTGCTGAA ACTGGTGGCG	360
GGCATGCGCA AGCGGGAACC CAATCGCGG CCGGGCAAAT CTTCCGTTCC AGGCACCTTG	420
GCGCTGGTTG TTTCGGGTT GCGACAGTTC AACAACTCTA ATCTCGTCTG GAGCTTTATT	480

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GTGCAGGCAT ACAGAAAGAC GCAAACGAGA GTGCTGCTGG GACAACTCGG GCTATGCTCT 540  
 CTGGCAITTT ATGGCCGCGC TGTTCGCGTC TCTCCGAGG CGGCGAAGTC GCCGCAGGAG 600  
 CTGGCGCAGA TATGCGCTGT GGACCTGCCG AAGGAGCTAA TACTGAAGTC CGTACCTGAC 660  
 AGCTGATAAT GTGGAGGCTC TATCAGCGAA TGTATCCGAG AAGCGATCGC AGGTGCCCCG 720  
 GGAGGAGTAC CCGGAGATTT AATCCAGCTA TTTCGCGCTT ACCAGGACTT 770

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 735 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1019RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

25  
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 35  
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GATCCATGAC CCATGCTAGG TGGAAGGAGC CCTTACCCGC TAACTGGGAC TCCCTCTTCA 60  
 ATTGCGTTAT CAGTTTGGTA TCCACAGCAC CCACGTGCTA CAACAACCCG CCCATCAGCG 120  
 TAGACTTCCG CGCATCCACA TGGCTTAGAA CAACAAACGA CATATGGGGC TTCTTCTCAC 180  
 GTACATATGC AGGATGTG AATGGGTTCG GCGGTTAGT GGGCTGCACA ACCTTCTTGG 240  
 CCGAGGGCTG TTGCGCTTC TTGCGCGCGG AATCTCTCTC CTGCTCTCG TAGTTCTTGG 300  
 GGGCGCGCTC CTGTGTGTG AATTTCAGAT CGGCCACCTT CTGGGCAACC TGCTTAATCT 360  
 CAAAGGCTCG CTCTGCGAT TCCAACACCA CGTCATCCG CGAGGGCTTC ATGAAATTGG 420  
 CACTGGCCTG CTCTTAGCT GCTTTATAGT TGTAGGATA AAAAAGTGG AACACCTCT 480  
 CCACTGCGCT CTGAGCTGG GTTTTGGTG GTTCTGCGCA TCTGTCTGT CTCGAGAGGA 540  
 GCACGCTCGA CAGCTGCAAT GCAGGCGCG CTGCAGGCTT GAAGGACGGC TGACCGTGCA 600  
 GAAGAGCCCC CAGGCGCATC CACTGGTCTT GCGTGGCTC CGTCTTGGG GGGCGCGCTG 660  
 CAACAGGCTT TGCTCAGCG TCGCGCGCG ACTGCTTGC AGAGACGACA GCGTCTGCAT 720  
 CAGCGACGGG CCGCG 735

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 740 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1019UP



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

5 GATCCAGAT TCATCATGCG TGTTATACCA GGCCTATCT TCCTCGAGGT CCTCGGACC 60  
 AAACGGGGG CTCTCTTGTG TGCCAAGAGG TGCAGGACCC TGGCGCGAT CCTCGGOCAG 120  
 CAGAGTGGCA ATCTGGTCTT CATCCGCTAT CGCTGTCAGC TTAGGCACAA AAGCCAGTTT 180  
 10 TTCCGTTTIG TCGCGTGAT CATCTGCTC GAGCGGCTC TTCTGATCTC TGGACCCCTC 240  
 TGCAAACCTT TTGAGCTGCC TTGCTGCTG CTGTGCAAGT CGCTTAAATC TCAGCGGTTT 300  
 CTGTTTCTGG CCACCGCTCC CCAAGCTCTG GTCGGGCTCC AGTGCTGTTT CCAGTTGCTC 360  
 15 GTCCGAATCT TCGAAGCTCA GCGCGACCAA GTTCTGCGAT GTGTTCCTT TCAGCGGCTC 420  
 CCGCTCAAGG ACAGCCTTCA CCGTGGTGTG TGTGGCTCC TCCTGGGTAC TCGCGAGGA 480  
 TACTAGCAGC TCATGCAGGA ACTTCTCTC CCTTAAACT TGCCAAGCGC CATGCAGCTC 540  
 20 TTAGTGAAT TCATCGATC GTATGCATGC ACGCGGCTA TATTGCATAT CCGCTGCACA 600  
 AACTTCTGT GACATTGGAT GCGGATGTTG GTGGATCACT CCTTCAGCCG GGGTCATGCT 660  
 CTTAGCTCCT ACCGTAATTG CTCTCTCAGA TGCATGATGT GTACCATGCG ATCTTCAGCT 720  
 25 TGACAGACTT CCATATACGT 740

## (2) INFORMATION FOR SEQ ID NO:66:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 537 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1020RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

40 GATCGTTCT GTTCTGCGG GCAAAGTTCA GAATGACCT AGTGCCAGAC ATGACAGTAT 60  
 CGTCAAACT CCTCGGAGG TTAGCCTTGG ATATCCACCA TGAAGACAAA AACGAGAGC 120  
 45 CAACAGCGGA TCCTACCAA ATGGCCAGAA TACCGAAAA CCAGTGCAAT TCTCGGTTG 180  
 CTTCACTGG GACAGTGAG TTCACTCAA ATAGACCGT AACAGATTG AAGGAACTA 240  
 ACAATTGTT AATCATAGT ACCTTCCCA ACAATTGAGT AACAGATTG TTACACCGGA 300  
 50 AGGACTCAAC TTGCAATTGT GCCAAGTAGT TACCATGTGA ACGGAGAAA ATCTTCTCAT 360  
 AGGACASTAA ATTTTGAAC ATCGGAGGA CATGTCCTG AATACTCCC AATAGAGCG 420  
 CTATATCAGC TCTTGGTTGA GTGCGCTGA CATGATGAT TTGTATGTT GAGCTAGCC 480  
 55 TGGCAGACAG AGGCTGCTG CCGCTAGCT GCAAGTTGC AATGTTTATC TCGAGGT 537

## (2) INFORMATION FOR SEQ ID NO:67:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 563 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1020UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

GATCAGCACC GTGCCCTTCG TGTAAGCCTG CTTGGACATG GTGTGGGAGC ACCGTGTGTC 60  
 GCATTCTTTA CACGTGAAAG CAATCATCAT CATCGGCTTG TCCACCTTTA TAGACCCGAT 120  
 ATGCCGAAAC TCATCTGCAA TAGGCGGTTC CTGGCTGTTT TGCAGCTGCG GCGAACCGCT 180  
 GTGGAACCGA TGAGCTACCA AATGCCCCCC AAACACCGGA CCCAGCACGT ACTGCATGCA 240  
 GTTACGGCTT GGGCGGAGTA AACACGCAAT CCTGAGAGGC CCCATUGAAC GTCTAAGCAT 300  
 TTAAACAGT TATACGTAGT CAGCGGTTCCT CCTAAAACAG GACATGAGAG TCGTTCGAAA 360  
 GAAGGGTGCA TCTCAAATTT TTCAACTTTA GAAGCGCTGC CCGAAAAAGC ACCGTACCCA 420  
 TTTATCTATT ACAAGATGAA CAGTTAGTGG TCGCGGCAAT TGTGTCAGAT ATATGTCTCT 480  
 GGACATGAT ACAAGACACT CTGCCACAG AAGGAGCAGG AGATAGCATC CAAAATCTTG 540  
 CAGAAGGCTG AGCTGGCTCA GAT 563

## (2) INFORMATION FOR SEQ ID NO:68:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 346 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1021I1

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

GATCTCACC TGCGACCAT CGACAACCT GCATAGCCCG GCGGTGAGGT CATCGGCAAG 60  
 GCGGTGCCC GCACACTCGA GATGCGCTC AATGCCCTGT CCGCTACCAA TGGCGGGCA 120  
 CGAACCTCG AAACCGTGC TATGAACATA CGAAAGGCA TGGTTTCCAA GCACCGCAGT 180  
 CGCATCCGG AGCAGGAGCA GCTGCCCCCG GACTCCGGCA CCGTCTCGC CAAGGTGCGT 240  
 CCGGAGAGT TCGGAAGAT AGACGCAACC TACAAAAAG ACATCGAGCG TCGCATTCGC 300

ACGACCATCA AGGCTGCAGA CCGTGCCCGC AAGAAACACC GCGATC

346

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 562 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG102112

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

GATCTGGCCG	GGATGGCTGC	GAGTTGAGCG	CGGCGAAGAT	GTGTGACTCC	TGCAGAAAAC	60
GCTGGAGCTC	GATGTCTGT	TCCAGCAGCT	GCTTCTGTC	GCGTGGCC	GCGGCAGATT	120
TGGGCGGGG	CTGGTCTCT	AGGCGCGCG	CCTTGCCCT	GCGGATCGG	CGCAGTTCTC	180
GTGGAGAAG	CCGCTGTAG	GCATCTGAG	GCGCGGGAA	CGAGATCAG	CGCGGGTAT	240
GCGCGGCTC	GTGTGGAG	CTGGCTGAG	CGCGTCCAT	TTCGACTGC	TGTGGGATT	300
CAGACTGTCC	GGAGCGCGG	TGCGCTGCT	TCTCGGCTC	ACTGTGCTC	TGGAGGGGC	360
TGTGCTTGT	GTGGCTGCT	TGTGCAGAC	GGTCTTGT	TACATATCC	ATATCCTCTA	420
GGGAGCCAA	CTGGGCTCG	AAGGCGCTC	CGTGGGCCC	GACGTGCTT	NATTTATCTT	480
CAATTGTGG	TCATCGGGG	GGGTCTTGG	GCGCCAGAA	GININTNANC	AGGAANCCCT	540
AGNANNANG	TTTCAAATT	CC				562

(2) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 611 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1021RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

GATCTCGAG	TTGTGGCG	GCGGTCCG	CTCATTTACC	TAATCTGTC	TATAGTAAAC	60
ACGTTGTGT	ATCTACATAG	CGCACTGTT	GTAACCTACG	CTGCAAGCAT	GCGCGGCGC	120
ACGTCCCCA	CCAGCGCCG	GTAGAAGCC	TGGCTCGGC	GCGCGCGCC	CAGCATGCAC	180
AGGCGCAGC	ACGTTTCAT	CGTGATAGC	AGGCCAGTCC	ACAGCGGCGC	CTGCAACAGC	240
GCGATCAGCA	GGACGTCCG	CACCAACACC	TTGGCGAGA	CCAGTGGCT	GATCCCGTC	300

TCGCGGTCCG CCGTCGCTC GCGCTCCTTC TGTGCCCCCA GGTGTGCTG GCGCGCGCTT 360  
 TCCTTCGCCA GCGCTCGCGG GAACGTCTTT TTGAACCTG ACGTCGGTA TCGTTATTGC 420  
 5 TTGGGGTCCA TTGGAACGGC TGTTCGGGT CAGAGGAGG ATTCTCTGC TCGTTTGGTT 480  
 TTTACGAAGA CGACCTCGG TGAGAATGTC AGTTTGCCA CTNGGCAGCC CCAGGAAGGA 540  
 CCGGAATTC AAACCACTG AGTNGGCGN CGNGTAAAA ACGCTAAGTT AGTCNVTGC 600  
 10 ANACCNCT C 611

## (2) INFORMATION FOR SEQ ID NO:71:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 346 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1021UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

GATCGGGTG TTCTTTCGG GCACGGTCTG CAGCTTGAT GGTGTGCCA ATGCGACCT 60  
 CGATGCTTT TTGTAGGTT GGTCTATCT TCGGAATC TCGCGAGG ACCTTGCGA 120  
 30 GGACGGTGC GGAGTCCCG GCCAGCTGT CTGCTCCG GATCGACTG CGGTGCTTG 180  
 AAACCATGCC TTTCGTATG TTCATAGCA CGGTTTUGAG GGTGTGTC GCGCCATTG 240  
 TAGCGGACAG GGCATTGAG CGCATCTGA GTGTGGGGC ACGGGCTTG CCGATGACCT 300  
 35 CACCGCGGC GTATGCAGG TTGTGATG TCGCAGGT GAGATC 346

## (2) INFORMATION FOR SEQ ID NO:72:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 438 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1022RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

ANNNNNNNN NNNANGGTG GCGGTGTG AATAGTGGT CTTCTGCCG GGTCTGTGC 60  
 AGAAAACGAG ATTCTGGGA GTATCTGAA TTCTTTGTTG CCGCGAGCG TCTGGGTCTG 120  
 55 CGTCAAGCA CAGCGATTT GCGACAGAA CTGAAGCTAA TTCTGTGCT GAGGTGTTT 180

TGGGGCTTCG CGTTTTCAGC CTTTCAGGAA ATCTAGAGGG GCTGTGTGCT TTGAGGCTGA 240  
 AATCAGGGGA ATAGCCTGAA TTTGCGAGCG TGAATTGAGC GGTTATATCG AACTGTGGTA 300  
 5 CATCGNCACA CTGTACCAAG AGGACAGCGA ATATCTGACA GTAGGGGCTC CTTGTGAAGA 360  
 ACACAGTGTA TCGGTGAGA TAGGIGTTGA TTGAGTCTAG CGTGCTAGGT ACTCTTTAAC 420  
 TTTCAGTGG TGTTTTTT 438

## (2) INFORMATION FOR SEQ ID NO:73:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 461 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1022UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

GATCCAGCAG ACGTTTTAAT CACCGATTIT TTGGTAACA TTCAAAATAT AATTCTCGAT 60  
 GACAGTGAGA TAGATGGTGA AACTCCAGCT GGACTTACGG AATCTGGCCG GACTCGCAAT 120  
 CTGCTAGAAT TCGCAAAAGC GAAATTTTTT GCCANTGTAG ACCCAGAGAC TAATGGCAAG 180  
 30 CATAAAAAGC TGATTCCAAG CTATCCAGTG GTAAATGAGG ATTACTAAG TGGGNNANCA 240  
 AATGCATCCA CAAACAAAT GATAAAATTG TGGGGGATTA TCATCTTCTT GGCCTAAGC 300  
 TCATTAATGA TGAAGTACG CAACACTGAA AACATATCG GTAGTGGAGC ACTATTATGT 360  
 TTCTCTTAGA AAAATGCTTC ATGCTTCATG GAATTAAGGC GGCAACAAGT GCAAGGTAA 420  
 35 GAACGGAATT TTACTATAG CGGAAATTT GTATATATTA T 461

## (2) INFORMATION FOR SEQ ID NO:74:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 213 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1023I1

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

GTGAGAAAA CAGAGCTTGA GGTCCTACTG TTCTTTTICA CTGGGATGT CTCTGTCTGC 60  
 TCCAGGACCC CCACTTTCAG ATTGTGGTGC ATCAAGCGCT CCAAGTGGAC TTAGAGACGG 120  
 55 GTGTCTGGGA TGGTGCAGTA CGCAAACTTC TTGTGCTTGT GATCAGCGGG GTCTGTCTCG 180

TGTACCGTAA GCTTGCCGGG CACCAGCTTG ATC

213

## (2) INFORMATION FOR SEQ ID NO:75:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 725 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1023I2

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

GTCGAGGGAA GTAACCAATA TATTCAAGAG GGCTACCTAT GGCATCAATG AGACGTTGG 60  
 AACCAAAGAT CGTCGGGTCC TGGGTGATAG CGCTTCTGTG TGGGTCTTG TGTGCAAGCG 120  
 ACAACCTTCA TACACGGGAT ACTTCTGTGT TAGTGTAAAT CTCAACAGCG GTGAAGTTAT 180  
 CTTGATGAC TTCAAAGAGG AGCGTTTCT GACGGAGGCT TTGGAGACCG GAATAAAATA 240  
 CACAAACCG AGTGAAGTTG TGGTCGGAGA TGGCCTTGGC TCAGAAATCG AAAAGGTGTT 300  
 TCATACTTCA GATTCCGATA TCACTCTAAA TAGGATCGAG CTGCTGGGT TGTATGAAGA 360  
 AATCTTCAGT GAGCCGCACC CAGCCTTAG GGCACAGTT CCTCTGCAA CAGCGCTCAT 420  
 GCTGGTGCAAT GGCTACCTAA CAAACTTCAA AAATGAGAGT TTACTCTTCT TCAAGGAAAA 480  
 CTTTAAACCA TTCTGCTOGA AGACGCACAT GATTCTTCCC TTCTAGCGCT ATTGGAAGCT 540  
 TAGATATTTT GGGGACAGTA CAGATAGGAG CAGTAAAGGT CCCCTGTTAT GGGTNTTAGG 600  
 TCAANCTAGA ANAACTAGGG TTAAGGACTT GGAGGACTGG NITGAAAGGC CTTNTAATTT 660  
 GGTCAGTCA ANAGAGTTGN GGNNGCCAN GATTCACTAG GNGGNATTN TCATGGCTCG 720  
 GAATT 725

## (2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 659 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1023RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

TGCCCGGCAA GCTTACGGTA CACGAGACAG ACCCGCTGA TCACAAGCAC AAGAAGTTTG 60

NGTACTGCAC CATCCAGAC ACCGCTCTCG AAGTCCACTT GCAGCGCTTG ATGCACCACA 120  
 ATCTGAAAGT GGGGTCGTG GAGCAGACAG AGACATCCGC AGTGAAAAG AACAGTGGGA 180  
 5 CTTCAAGCTC TGTITTTCTCG ACGCTAGGGA TAACAGGGTA ATACAGATAT CAGATCTAAG 240  
 CTTCCTCTGT CCCCCCGGG TCACCCGGCC AGGACATGG AGGCCAGAA TACCTCTCTT 300  
 GACAGTCTTG ACGTGGCAG CTCAGGGCA TGATGTGACT GTGCCCCGT ACATTTAGCC 360  
 10 CATACTCCC CATGTATAAT CATTTGCATC CATACTTTT GGATGGNCC ACGCCCGGAA 420  
 GCAAAAATTA CGGTCTCTG CTGNAGACCT GCGAGCAGG AAACGCTCCC CTCACAGAG 480  
 CGTTNGATTC TTCCCCACGG CGNCCCNVIG TNGAGAATNT AAAGGTTAGG ATTINGCAATG 540  
 15 AGGNTCTCT TTCANTINCT CCGTTTNA AATNPTGNG GTCAAGTNT CANATCAAAT 600  
 TCCCAACATT AACACNVIG TTAGGGAAGT TCANNITTCN GGGCCNNGA TTANTTCN 659

## (2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 646 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1023UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

GATCTCAAAC CTGAGAATAT TCTACTTCAT CAATCTGGTC ACGTTATGCT TTCTGATTTT 60  
 35 GACCTGTCAG TACAGGCAAA AGGAACCAGA AATCTTCAGG TTAAGGGAAA TGCCAGTCT 120  
 TCGCTGTGCG ACACAAAAGT TTGTCTGAT GGCTTCAGGA CTAATTCCTT TGTTGGAACG 180  
 GAAGAGTACA TTGCACCTGA GGTCTTCAGG GGAATGGCC ATACAGCATC CGTGGATTGG 240  
 40 TGGACATTGG GTTACTTAC TTACGAAATG CTCTTTGGGT TCACTCCTTT CAAGGGCGAC 300  
 AACACAAATC AAAGTTCTC CAATATTTTG GAAGAATGAC GTTTATTTCC CAAACAATAA 360  
 CGATATATCT CGCACTTGCA AGGACTTGA TTAAGAGTT ATTGGGTCAA GAAAGAGGT 420  
 45 AAGCGACTTG GTCAAAGTTT GCGCCAACT GAGATTAAA AAGCATCCCT TTCTTTTAAG 480  
 ACCGTCAG TGGGGGTTA TTGGAGGGA CCAGGAACCT CCGTTTATC CCGTATTGA 540  
 CGGAGATGG GTACGACTTT GAAAGTAT CACATTAAAG GATGTTAAA AGGCCGGGAA 600  
 50 TCGGCCAC CCGGTTAGT CTCATATTC AAGCGNGGT TCNNCN 646

## (2) INFORMATION FOR SEQ ID NO:78:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 557 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single

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(A) ORGANISM.: PAG1024RP

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(A) ORGANISM: PAG1024UP

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(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

GATCAGCCCC	TTGCCCCGCC	CGCCGTTGTA	CTTCTGGTTC	TGGATGGACC	CCGGGGIGAT	60
GGCGCTCTCG	TTGCGTACT	CGTCGCTGCT	GCGCAAGTGG	CAC TTCAGCG	CCACTAGCAC	120
CAGCTTCAGG	CCCTGCGAGT	GGTCCGCAAT	TTGCGTCACC	CAC TTC TTCT	TGACGTTCTC	180
CAGCGAGTCC	CGCGAGTCCA	CCGAGAAACA	CAGCATAATC	GTGTGTGTGT	CCGAGTACGA	240
CAGCGATCCG	AACCGGTCAA	ACTCTCTCTG	CCAGCAGTGG	TCCCACAGGC	TCAGCGTGAT	300
GTGCTGGTTG	TCCACGAAGA	TGTCATGGAT	GTAGTTTTCG	AATACCGTGG	GCTCGTACAC	360
CTTCGGAAAG	TACCTCGCGT	GAACAGGTTT	AACAGCGACG	TCTTCCCGCA	AGCACCGTCT	420
CCGAGGATGA	CGATCTTGGG	CTGATAGGA	TGCTTCGACG	ACGAGCTUGA	CCACACAGAG	480
GCACTCTGTG	TTGTAGAGC	TGGTGGTGGG	AGCTCTCTTG	ATGCCAGTCC	ACGCTACAAA	540
TACAGCGTTT	GAGACGAAAT	ACTAGCTGCT	ACTGTCTTTT	CTCTCTGACG	AGGTGCACCG	600
CGCATCCCCG	TTATAACTGT	C				621

(2) INFORMATION FOR SEQ ID NO:81:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 522 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1025UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

GATCCCCATG	AGAATGAGCG	CATCTTGGAT	ATGGCGCGCG	CACCCGGTGG	TAAAACCACC	60
TATATATCTG	CCATGATGAA	GAACACTGGT	TGTGTCTTTG	CAAATGACCG	CAACAAGGCA	120
AGAACGAAGT	CCTTGATTCG	GAATATTAC	CGTCTCGGCT	GCACGAATAC	AATTGTCTGC	180
AACTACGACG	CCCGGAAATT	CCCTAAGGTT	ATCGGTGGAT	TTGACAGAAT	TCTACTTGAT	240
GCCCCTTGCT	CAGGTACAGG	TGTTATCGGC	AAAGATCAAT	CTGTGAAAGT	AAATCGTACT	300
GAGAAGGACT	TTATGCAAAT	TCCACACCTG	CAAAAGCAAC	TGATATTATC	TGCAATTGAC	360
TCTGTTGACA	GCAACTCCAA	GCACGGCGGT	GTCATTGTCT	ACTCTACTTG	TTCCGTTGCG	420

GTGGAAGAAA ACGAGGCGCT GGTGGAATAC GCGTACGGAA GAGACCTAAT GTCAGCTGTT 480  
GAAACCGGCT GCGTATTTGT AAGGAAGGCT CACTAGCTAC GA 522

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 508 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1026RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

GATCCAATTG CTGGTCATAC ATACGCATTA ACAGATTTTA TTACTATGTA TCCAACGTGA 60  
ATTGCTATAT GTACCTTATT ATCGGTTTCA TAAAGATGCT TTAATTTCTT ATTCTGAATC 120  
GGAGTCGTTT GACCGGCGCT TAGACTGGTT ATGCTCTCTG CCATCGTTTT TCTCGAAAAT 180  
GAAAATTCTA GCTTCACGCT CGGCTCAGG CTTAGTCGTA TCGTCTCAT TGTAGTTCT 240  
CCTATGACGG TATCTCGGA AGGTATCCCA CTGGAATTG TGGACCTCT CAAGCTTTAA 300  
ACCATGCTCC TTGGCAAGTA CCTTAGGCTG CCAAGAATG TATGGATCAC CGGCAATAG 360  
GGACAAAATG ATCTCTCCCA TATCATCAGA TGATTGTTCT TTTCTTACT TCATATCCGG 420  
AAAGATGGGC AACAACTACC TTCTTATTGG CCAGCTTGAT AGTGTGTTAC AGCTATCAAA 480  
AATATCCCGA TAGAGCTCTG AGCTCTCT 508

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 594 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1026UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

GATCTAGCAG ACTAGACTCT CTATGGCATC AAGTTTCTGT TTTCAAGTCT GGGTTTCTTG 60  
AGCAACCTGG TGCCCTATA CCGTGTGTCAG ACGCACAGCG AAGCAGACGT CTATCGAAGA 120  
TGTCGAAGTT ACAGACGAAA AAACAGCGCC CGCCAGCTAT TUCAGAGGCA GACGTATCAC 180  
TCCAGGCTAT CAAGAAGCGG CGCATGTCCG CCAGGTCTTC TAAGTCCCGT AAGTCGGGTT 240  
CTGCCACAGG TATTAGTGTG GTGCCACGGG CGGCAGCTTC AGAGTCATAT GTGGTTCCAC 300

CTGCTGGTGC TCCTCTGAAG AAAGAGTCTG CGGATGACTT ATTTCAAACG ACTGCTTCTT 360  
 5 TTTATGAACG TTACTACTATT TCCACACTGA AAGAAATACC GAAAAACATT GCAGATGAGG 420  
 ACTCTGCCCG ATATACCGTT AACGAGGATA GCATCACTAT GGCTGACCTT TGCAAACCTC 480  
 TATTCCCGAT AGGTGAAGTA TCTGATAATT TCACCGGGCG AAAGAAGCTG CAAAAGCCAA 540  
 10 GATCGAAGCT CGGAAGAAGC GCGCGAAGT CCGACAGATG GCTAAGCGTC AATC 594

## (2) INFORMATION FOR SEQ ID NO:84:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 454 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1027RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

25 CATATCGACG TACTCTGGCG TTGTCTCTTC TTGTCAGCA GGAAAGCGGT CCGGCATAGG 60  
 CTTACTGACT TTCACAGACA TGATTCCTTTT GCTGCAAGTA AAGTATATTA ATGCCGCTGT 120  
 CAAAAATGGT AATAGTAAGG AAAGACCAAC CTGAGAAGCG TCACGGGCTT GCGATAAGCC 180  
 30 GTTTTACCT AGAGCAGTGG ATACAQCTAA TGTTGGAATC AATGCAATGG CTCGTGTCAG 240  
 AATTCTCCGT TTCCATGGGG TTATAGTCCA GCGTATATGG CCTCCGCATA CTATTTGTCC 300  
 35 AGCTATGGTA CAGACAAATC CTGCCGATTG GCGCGAGATT AAGAGTGCGA GCATGAATAT 360  
 GGTACCTGCC GCTGGTGGCA AAGTGTGGA TAATAGGTGG TGTATCGTGT ATAGATCCGC 420  
 ATCGATGGCT TCCGGGGTAT CATACAGTGC GCTA 454

## (2) INFORMATION FOR SEQ ID NO:85:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 446 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1027UP

## (x) SEQUENCE DESCRIPTION: SEQ ID NO:85:

55 GATCAACGAG TAAAAATGCC AGGTGTTTCC GTTAGGTACG TGTGATGAGT GCTAGTTTAT 60  
 GGTTTGTTAC GGCTGCTGGG GGGCGCTTTC TGGGAGGTTC CAGCGCTCAT ACGTTATGTG 120

AAGATGCTTC GATGNGAGG GTTGGAGAA GGAATGGGA TGTCCCAAGC AGGACTTGGT 180  
 GATTGGTTCC AGAAGGTGCG TGACTGTGTC AAATATGAAA TCATTGGGCG AAACCTTAGCT 240  
 5 TGCTACGGAG TCCAGCATGC AGAAGGTGCG GCGAAGCTA GGTGAGGCTC GATGAGACGG 300  
 TGGGGAAAT CCTTGGATCC CAGGCCAAAG CAGACGTACC TACCAGCTTT TAATGTGCC 360  
 GCGTACTAAC ATGATATACA GAGAAGTTCC AGCTCAAGAG TTCAATCAAG CTTACGCTTC 420  
 10 TTTTCTTCCA AAGACAAGGT AAGTTG 446

## (2) INFORMATION FOR SEQ ID NO:86:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 551 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1028RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

GATCATGCAA ACGGAGAGAA GGAGAAGAAG TCTAAGAAAG AGGGCACTAA AGAGAAGAAA 60  
 GCGAAAAAGC AGGAGAAAAA GGAAGTGAAG AACATCATTC AGGAGTCCGT TGAGCAAAAT 120  
 AAGCTAGCAC TGATAGAAAA GGTGGAGGAA GAAAGAGGCC GCACGAAGGA GAAAGACCTT 180  
 30 GACATCAAGT TCAGGTATCG GGAAGTTTCG CCAGAAAGTT TTGGCTTGAC CACCCGTGAG 240  
 ATATTTATGG CTGACGAGCG TGCTTGAAT GAGTATATTC GCGTCAAGAA ATTTGCACCA 300  
 TATAGAGCAA AGGAGTTGCG CAACAAGAT AAAAGGAAGG TCATGAAGGC TAAGCGTCTA 360  
 35 AAAGAATGGA GGAAAAAGGT GTTCAATAAC GAAAATGGGT TGGCGATGA GGATGAGGCC 420  
 CTTGATACCC AGGCGGCTCC TAAAAGGAG AAAAGCCGTT CTAAGCACA GACAAGTAA 480  
 TAATATTACC GTCTTATGT AGTTCTGCG GTAATTATAT TTTGCTATAC ATATAATTA 540  
 40 ATTTAAACTT T 551

## (2) INFORMATION FOR SEQ ID NO:87:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 628 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1028UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

GATCGGCGCC CGGCACAGGC CTGGCAGCAC CCATGCGCCG ATGCTGTGCC TAAGATGTCT 60  
 CAGAATTACG CGCGCGCTCA GCGCGCGCGC AGCCCTTCCA TGCTTTTGGG CCAGGAAGCC 120  
 TTCCACGAGC TGGGGGACTC GCTTGGCATG TCAATGTACA TGTCGCCCCA GACCCATAGG 180  
 CTCAAGGGCA ATGGCGGGTA CCTGTGTCCG ACCGCTTCTA TCTCCGACCC TTCGGTGTCT 240  
 GGTGACACCG GCGCGCTCC GTCTTCTCAG TCATTGACAT CGCAGCTTCT GCGTACCCCG 300  
 AACTTTAACA TGAATGACTA TGTGCATAAC CTTTTCAGCC CCTCAGCAAG AATAGACCCG 360  
 CCAGGTAGCT CTGGGAATAT ATAGGGCCCT GCACACATTT AGCGCACAGT ATACTAGCTA 420  
 ATCCTACATT CTCTGTCATA GTAATGCTTA TGTGAGCACA CCTGCGGTAT AATTTCATTA 480  
 TTCTCTGTTT CATAAATGCT GACATATGTC ACGTGCTGG ATCAGCAAGT GATGGCAAAA 540  
 TTCTATGAA TGAGCCTGTT CATCTGTCA GACAATACAT TATACAGCA TCCATCTCTC 600  
 GGTATGATAC GGACTCTCTC AACTGGA 628

## (2) INFORMATION FOR SEQ ID NO:88:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 655 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1029RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

GATCGTAACA CTCTGGAGAA GTGGAAAGAG CTAGTCCCTC CGAGCTGTAA ACGATGCATG 60  
 GATCGCTTC ATCACAACCG GTACGACACC GCGAGTTTC CGGAGCACAC GCTCGAGGAT 120  
 GTGGAAAAG GGGTTCCCG CGATGCAGTG GTATACATA TTGGGCCACT GTGGCAATTT 180  
 CGATGGGAC TGGATCGCG CGTCTGCAG AGCTCAAAGA AGGTTTGTTT OCTATTCTCG 240  
 AAGATCGATA TGGTGGTGCA GAGACCGTC CACATGCCGC AGGACGTAGG TGCATTTTTT 300  
 CAGAGCTTGC TTTATCATGA CCTGCATGTC AAGATCAAGA ACTTCCGCTT CTTTCTGCG 360  
 CTGAAGCAAT GGAACATCCA GACGGTGGCG AAGCTCTGA GTAAAGAAAG TTAATTACTT 420  
 GCGGGGCCAA ACGCGGGCAA GTGTCTATG ATCAATGCC TGATGAAGAC TGTGTGTTAC 480  
 GAAAGTCGC GTCTCGTATC CTCAAAGCAG TCCTCTGCGA CCGTGGCGA CCTGCTTCCA 540  
 AAAGGCAATT TGGACATCCA TTCTGCGGT GTGAGCACA TACCGAATT CACTCGCCAA 600  
 CCCAGCAATA CGATATAAAG GCAAGATCT CCAGGTTTC CAGGCTACCG CACAT 655

## (2) INFORMATION FOR SEQ ID NO:89:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 638 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1029UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

GATCTCGTGG TGTTTTGCAA CTTCGTGGGT GACCGATAT CTCAGGCTTT GCGTCTGAG	60
CATGATTATG AGGTGAACAA GATCGCGCGC GCGCTCTCCT TACTCCAAA GCTGTATATT	120
AGGGATAGAA GGACCAATTT CCTCTCGCG GCCAAGGGGG ACGACTTCTG GGTCAATTGG	180
GATACCACGG TGA AAAACTG CGACATTACA TCTCTCCTTC TTACTTTGA TGAGTTCTAC	240
AGAGAACAGT TGGATTGGTT CCTGGCGCAG GCGCGTCTC GGCACGAGGT CCCCAGCGGC	300
GATCTCGTAG CGTGGGAAAA CGATATAAAA GTAAAGTCTT TTAGCGAGAA GTCATCGAAG	360
CAAGCTTCGT GGGGTTCCCT TGCCCTGGG AAATTGGAAC TCGTACTCGC CGCTCCGTTT	420
CTGTTGCCCT TTGCGGAGCG GGTGCGCTAC TTTGAAACGC TGATACACCA CGACCGACCG	480
CGGTTGCAGG GACGCCACAC AGGACCAGCC TTGCGCTGC CCGACTGTA CTTCGGTGC	540
TGCGCGCGGC ACGGTGGAT TATCTCCAGG AACACATCC TGAAGATGC ATACSAGCG	600
TATTATCCGC TGGCGAAGA CTTTAAGAC CAGCTGGC	638

(2) INFORMATION FOR SEQ ID NO:90:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1030RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

GATCTGCTTG TTGCGCAACG CTTCCTAATC GATGTGCTG AGAAAGGGGT GGGCGCGAC	60
CTCTGCGCGG TCGTTGACCG CACCGAGCG GTGCTTGGGA TTGCGGTTC AAGGCCCTT	120
GACAAAGGAG CGACTTCCG GCGATAGCAC GTCCCTGGG AATTGACCT TGCCAAACG	180
AATCTTCTGG TACATCTCT GGTGTCTC TGCAAAAAA GCGACACAG CACAGCACAT	240
CTGAATATC AAGAGGCCA GCGACAGAA GTCAACCA TTCTGTAGC CCGTCTCATC	300
GAGCAGCAGC TCGCGCGTA GATACTCGGT GGTACCGCAG AACGTATTGG TGCGATCCTT	360

TAGGTCCGCT TTTGAGAGGC CGAAGTCACA TAGTGCGATA TTGCGGTGG CGTCTAAAAG 420  
 GATGTTTTCT GGCTTGAGGT CGCGGTACAC GATATCAITA TCGTGAAGGT ATTCCAACGC 480  
 5 AAGCACCAAC TGGGCAATGT AGAACTTTGC CGCTCCTCC GCGAACCGAC CTTCTTTCTG 540  
 AAGGTGCCAG AAAAGCTCAC CACCGTCAG GAAGTCAGTC ACCAAGTATA AGTCTGTGGG 600  
 CGTTTGAAAA GAAAATTICA ACCAACAAATG AAGGGACACG ACTTTGAGCA GTACGAAAGA 660  
 10 GATGTTGGC TCACCAATAG TATGTCCA 688

## (2) INFORMATION FOR SEQ ID NO:91:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 751 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1030UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

GATCGATTCC CTGAGCATGT TTTTCCCTAT GCTGCAGGTT TTACATGGTG ACATTGGGGA 60  
 TGCCGAACCTA AAGAACCTTA TGCTTTTGAA ACTCTGGAAC ACTTAAGGCG GAATTCCTGA 120  
 30 ACGTGGCTA TTCACTACTC TCTACAAGAA ACAGCAAGTT ACCGTAAATG ATACCGTGCA 180  
 GCTCGAGTGG TATCCTTTAC GGCAGAGTT TGTAGAATCA ACCTATTCCC TTTACAGGGC 240  
 CACTAAAGAC GCATTTTATC TGAATATCGG ACGAAGCATC CTCAGGCTC TATCAACGGC 300  
 35 CTTTAAACG AAATGTGGGT TTGCGGGCAT ACAAACGTC ATAACGGGAG AGCCACATGA 360  
 TAGGATGGAA TCGTTCGTTT TGGGCGAGAC CTTAAAATAT CTCTATCTCC TCTTTGAGGT 420  
 ATCCAATGAA TTGCATACAC AAAAACGCAC TAACCAATA TTTAGCACTG AGGCGCATCC 480  
 40 ACTGTGGTTG ACTGCTCGA TGAAGGCTCG CTACGAAAAG AACAACTACT GTGAAAACGA 540  
 CGTGTATATA CAGACTTGC GTGGCTTACA GGAGCTTGAC CAGCTGAAAA GCGTGCCAA 600  
 TTCATCACT GCAGAGGAAG CCATGATACC AGCTTCAGAT TTCAAAACAG AAGACTCGA 660  
 45 GGAGTCTTTG AAGGACCGCG TTGCAGGCG ATACTAGAGG CCTACACGTA GATACGACAC 720  
 GTTCGTGGAA CATGCAGACC TTTGCGGACA A 751

## (2) INFORMATION FOR SEQ ID NO:92:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 646 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1031RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

	GATCTTAGTA ATGATCAGGT GATTGATTA CCGCTGTGTC GTTTTGCTCT CCGCAAAGCG	60
10	ACATTTACAC GGGAAAAGCG GTGAACCTCC GCGGAAACCC AAATACTCGT ACACTATGAC	120
	TATAGACGAC AATGTGATG ACGTGAGCAC AGTTTAACTC TAGTGTACAA TCACGTGCAC	180
	ATACCTTCTC TGGCAACCCAC ACATTAACTA TTTATTTGTG GTCACGTGAA ATGAATGAT	240
15	GCATTTTATA ACTGCAGGTT AGTTGAGCCA TCTGCGCAAC GATGTCTGTC GACAGCATTC	300
	GGGGCAAGGC GCGTCATGAG TGATTGGAAG GAGGCACAGG ACTCCACGGG GCGTGTTTAC	360
	TACTATAATT CGAAGGGGGA AACGTCATGG AATAAGCCCA ACGACAGGCC AGTTGAGCTG	420
20	GAACCGCGAC TCGAAGAATG TGGCTGGAAA GTGGCAACGA CCGAGGACGG TAACTGTAC	480
	TATTACAACA GGGAACTGG CGAAGCAGG TGGGAGAAGC CCGAGTTGGA GCCAGCCGAG	540
	GAAGTGCCCC GGGAGARGA CGAAGCGCG CCGGAGGARG AGAAGAACGA GCGTCCGCT	600
25	GCTGARGAGC CCGGGGTCCG GATCGAACTG CTGCTCAACT CAAACC	646

(2) INFORMATION FOR SEQ ID NO:93:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 386 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1031UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

40	GATCANGAN CAGCACGAC AAATATAACA CGAGCACCGG CATTTGTCTA GTGGCTGGT	60
	GYYYTGTGTC CACCGTCAG CTGGCGCTGG GCTGGAGTGC AAAAACCAGA GCCACAAGCG	120
	TGGCGTCCG ACGGGGAAG CTGGATGCT GGCAGCAGCA GAGAATGGT GCGGGAGTGC	180
45	YAGAGCGGTG CTGGAGCGC GCGAGCGGC GCAAGCTGCG CCGGGCCCGG CTGATGCTGG	240
	CGCGGCATA CGAATCAAG AAGGCACAG CCGGGGCCA GCTGGCGATG CAGGTGGCGC	300
	GGCTGSCCG CCGGCTGAC GTGGGCTGC GCGGGGGCG CGTCCCGCTG CTGGCKGTAC	360
50	ACCCCGTCT GTGAACCTC GGTAC	386

(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 775 base pairs  
(B) TYPE: nucleic acid



(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1032RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

GATCTTTAAC CTCTGGACTT CAATCTTCTG GGTAAGCA CAAGTTAGA GATGTATGAT	60
CCAAGCACCA AACTACAGTC TCGAGACAGC AAAATAATCC TACTTATATA AACTGAACGT	120
TGCAATTCTT TAAAAAATT ACTAAGTTCG ATTAATGGCG CGCCGGTGAG CGCCTCTGTT	180
ATTAGCTGAG TCATGCTGAG GGTTCGGCTA GGAAGCATCC GCTCTTACTA GGTATTTACC	240
AAGGCACAG AAAATGTGGT GGTATCTTTC ATTTGGGGG CGTTTGTAC ATTACTOCAT	300
AGTCATGGT CAGCAATCCC GTTCAATGGA CATTTGCTCA ATGCTGAGTC TTCCACTGGA	360
CTTGAATCC CGCAGGGAAT TTGGGCTCTT GGCTCAACCA GGTCGCGCG ACACCTACAG	420
CCGAAAAAAT TGCTGCTTGG ACTAGGTCGG CTGACGTGGA CATGCGAGAT GACTTTAAAG	480
TGATACATTA AAACCAGGGC TGTATGAACT CAGCAAAGGT CTCTTTTATA CAGTGTGCAT	540
ATAATATTTC GGGGCGTTC AATTACCTCA TGCCAGGTAC TGTAAAGATT CGCCGTCCGC	600
GAGGCTGTA GGTATTCCTT GCTAATTAAG TGTGATGG CCTTCTTGAT AGAGATACT	660
TTGCATTGA CCGTGTGAG ATTGGGCTAT GCATTCGTCA CCAAAGTGGC ATGAGAGAGC	720
ACCGGTTGC TTTCATAATT CTGACGATAC AAGCTTCAGA ACAATTGCTT TCTTG	775

(2) INFORMATION FOR SEQ ID NO:95:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1032UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

GATCCGAAA ATAGACTACA TCTGCCGCAA GCAGCGCGCC CTATCTGCAT TTCTCTCTT	60
GGTGGTGTG ATGTGGGTCA TCAGTTTAC CATTAGCATT CTAAGGGTAG TGAACGGT	120
GAGTTCACTT TCACCCAGAT AAAAGTTAAC AGGACAAGTG AAAAAAAGC GGGATAAAG	180
CATCAGTTAT GTAATAAAGA GCTATACGOC AATAAACATT TAAGTAACTA CCATGGTATC	240
TCCAGGTAT TACTAGGTTT CCTGAAGTT TCGAATGTGC CTTGGTTACC CGGTGTTTAT	300

GCAGGCTAGC GCGACAAGAA AAATGCGGTC CCACCCATTC CACGATTAGC GGTGGCAAAA 360  
 GTCTTAAAAG TTAGGCAAAT AAACACAATA CCATCCTTCA AAAAGCGCTT GAGCAAGGCT 420  
 5 ATCGGGGCTC AGAGCAGGTG TAATATACAT TAGAAGTGAG CGATGAACGA TAAATTGCCG 480  
 AGAGCAGATG ACTTGGAGC CACTTGGAC TTGTGGAGC CCGGTATCGG GCAGATCCTG 540  
 GCGCGGATG GGTGCGCCA TGCAGGGGA GTGCAGAAAC TGCTGTCAGC TGGATGTAC 600  
 10 ATGGATGTCT ACACGGCTAT CTACAACATC TGCGTCAACA AGTGGCGGTC CACCGGGCAT 660  
 TTTCAGTGG ACTCGCGCA ACGGCAGTGG AACCAGTCAT CGATCCTGGT CCGAGGGAGA 720

## (2) INFORMATION FOR SEQ ID NO:96:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 602 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1033RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

GATCTTGTG AACAGGTGC CCGGTGCGC CAGCTGCATC GCGATGCATA GGIACCTCAG 60  
 30 TGACACATTG CAGTCCAGCA CCTCACCAC ATGTGGGTG CCGGCGCACC GGTCTGCGAG 120  
 CACCACCTCG CCGTCAGAT CTTGTTGGT CATCCCTGCG GCTTTGCAGC GCTGAGGTG 180  
 CACGAATTC ACAGCCACTA TGTCTGGG GTCTGGGCGC AGCGAGGGG TTTTGAAGAA 240  
 35 CGGAACTG CCTGCCCCA TGTCTGCC GAGCTCTAGT TCTTAATCT CCGGCAGGCA 300  
 TTCAGCCTGC GAGGACTCA TAGTAGCCA AAGTGGTTG ACGGCCCTTC AGGTGGGCTC 360  
 TAAGTGCTGG TGATGGTTG TTGAAAAGTG ATGCCCCAAC AATAGTGTGA AAAACGGCAA 420  
 40 AGTGGGCTT ACGGGGGGAA CAAAACAAGT GCTAACTACA CGGAGCAGG AATTAAATTG 480  
 GGAAGTGGC TTGGAGCAG GTATAGGAGT ACGGAGGTG GATATGAGTG TCGAACAGGT 540  
 GTCTGGTGG CACGCGTGG AAGAACAGGT GGCAGGTTT GAACCAATG TGGAGGGCG 600  
 45 GA 602

## (2) INFORMATION FOR SEQ ID NO:97:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 683 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1033UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

5 GATCCGCGTC GTGAAAACA GGTCCTGGG GTGCGATACC GCCAGCACCT TGCACGACGT 60  
 CCGCACCAGC TGGTCGTGC TCTCCAGCGC CGTGATGATG TCCTCCACCG AAAACACCTC 120  
 10 CAGCACCGTC TCAAACGGCG CAAGCTTCAC CACTGTGTCC AGCAGCGACA GAAGCCCCCT 180  
 ATAGTCCAGC CCACTCATCT CCCCTGCCGT GAGCAGCTTT TTCATCGCCG AGAGTAGTGG 240  
 CCGTGGTCTT GCGTCGAGAC GCACCATCAC CCCCAGGTCC AGCTGCAGCA TGTCCACCAG 300  
 15 CCCGTCACC GACCCACGCG CGTCTCTCTC GGGCGCTCC AGCACATCCG CCAGCTGGCT 360  
 CATTCGGTCC TGGATCTCC ATTCTCCAT CCGGATATCG ACTCTTCGGA AGTAGGGTTT 420  
 TGGGGTTTGT AAAAGTAAAG GGCACCTTTC CAGCACTTCG CCACTTAATG TGTGAGGCA 480  
 20 CAGAACCGGG GCGCTATGTT GCGGAGTCA AGGCTTGCTT CGCTATATTC CGACTTCAGG 540  
 AAGCTGCAAG AGCTCAATCC AGATGGGTTT CAGGCTAACG TTCTAACATG GAAAGACCAC 600  
 CTGATGAACA CAGTGTGGCG GGACGAGCTT CTGATAGAAG GGGCGACAA CTTCTCTGGAG 660  
 25 CGATTGAGCA CCAAGGAGAC GGG 683

(2) INFORMATION FOR SEQ ID NO:98:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 653 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1034RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

40 GATCATATTG GTCTTGGCGC CAGCATCGCC TCTTCTGGTT CTGAGCCAGT AGTATGATAG 60  
 CATGCCGCGC ATGAACCTGG CAATGGAGAA ACTAGGTGAG TTGTACATCC CGACGCCAAG 120  
 45 GGCAACGCTT GAGGGTAACC ACTGGGCGCA TCTGTACTTG TCTTATCAA TACAATTCTT 180  
 TAAGAGGGAT ATGACTGCAA AGATGCTTCC TAGGATGATC GAACATTCCA GTGGGTATGG 240  
 TGGGAGTGCC ATACCCATGA CCAGAGGTGC GCAGTCTATC CATACGAACG CAGTTGGGAT 300  
 50 CCGGAATTGC TGGCTGGGGA TTTCGTAGAC CTTGTTGTAA AAAATGTACA TTACCTAGA 360  
 CAACAAGATC GACCAGCTGG CGCCGATAAT CTGCGCGGTA AACTGAGGCC TAGGAGAAGC 420  
 ACCGATTAAA TGCCCTGTCT TAAGATCTTG CATTAAATCG CCGCTTGCT GAGCGCCCTC 480  
 55 CTCAGCTATA CTTCGGGCAA CCAAAATTAT TAATACAGCG GCTTGTGAT CCTGGGTAC 540

ACAAGAGOGA AAATGATTG AGCCAGCTTT CCGATGCCGC TGAACGGSTT GAGATCGGTT 600  
TCCCCAAGAC CCGGACGCTT AAAATCGATA GAAAGATGCT ATAAGCAGAG CCA 653

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 670 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1034UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

GATCAGGCAC AGCGGACACC ACCAAAGCAG AACCACGGTA CCATATCTCT CACACACGGC 60  
TCCCACTAGC ACAGGGCTTC CACCTGGCGG CCGTGGGCTC GGGCCCCCGT CCGCATAAGC 120  
ACGTGGGGGG ACCTATTTCG TTCCAAAAT ATTGTTGTAA CAGTAATAAT ATCTTCATTG 180  
AGGACATTC AGTTGTTACA CTGAAAGAA CAGATACTAC ACTTGATCTA AGCCAAAAGG 240  
CAAAGAGATT TGGTTTCTAA AAGAAAGAGA AACATGCCCTG TAAGAGGGAG GCCCATGGCA 300  
CATTTTTTCT CTCTTATAT ACCAAGTAAA ATTTAGAAAA AGAAACGAGC CGCTGCTTG 360  
GTGGGGGGGG TCTGCTGGG ACTCCAGAG GGTTCAGCA GGAATCTTC ATCCAGGGGG 420  
ATCGGATCAA GCTCTGAAG CCCTAGCTG CCGCCATACA CGCCGCCATT CGCGAGCTTT 480  
CGTTGAGTTC GTAAGCCATG AAATCAGAT ATACGATTCT CGAGGGCAAG TTAAAGAGAG 540  
CCCACTGGGC ATACTGCTAG GGCTACAAC GCGCACCAGC TGCGAAAGCG GAACTCCAAT 600  
AGTTAAGGGC GGGTGGCAAT AGTATCTGCT GCAAGCAGCT TCTAGAATTT GGTAGATGAG 660  
TGGTTTCATG 670

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 558 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1035II

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

GATCTTTTGT GGAACCAAGA TCACCACACA CGAATATGG AGGCCAAGCG CCGGAACGAG 60  
CCACACATGG GCGCGGGGG TAGCGGTGGG CCCAAGCAAG CGTATTTTGA GGAAGTGAGC 120

TCCTGTGGGT GAGCAATCCA GGGCACTACTA GGCCAGGTT GTCAGCTGAA AGTGTGTTAC 180  
 CCGGTATCGG TATTACCCGG CTCGTATAAA TGTTACCCGG ATATGGTGAA GCCAAAATTT 240  
 5 TCACCCCGT AAACAACAGG AGAGTGTACG TGCATATGCC GGCAGCAGCT AGTGTAGCCT 300  
 AGTGAGAAGA AGGCTGTGA GCTAAGACTA GCGAGGAGAC GAGGATTGGG CACTGATTGC 360  
 GCGATGTGGA TATTCTCTAC GCGCTGAAG AGCAATGTNG NATATNNGGN CGCGCTNGTN 420  
 10 GGCAACNGN GGNCCNGGG AGAGNACCGA GNTTGNNTNA NGGNGNGCG CINCANAACCA 480  
 ANNNNTNCCN CAATNCTTA CNATCAANN CAAATNTCCN CNNNCANCOC CNNGNNNAT 540  
 NNNNATTCNN NNNNNCN 558

## (2) INFORMATION FOR SEQ ID NO:101:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG103512

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

30 GATCCTTAAA AGCTGGCCTC CGCAGATAGA CCTTCTGGC AGAGGCTGGA AACCTCAACT 60  
 AGCAAGTGGC CACCGAATC AGATAAGCAC TAGAGTGGTT CCAGTAACAG AGGAAGCGAT 120  
 CAAGGAAGAT AGTAGAAGAG GACACTGCTG CCAGGCTTGA TCGGACAGAG GGTTAGCTT 180  
 35 TCTGTTGAAT TTCAGAGTTT CGGCGCTTTG TTTACTTGGC TTCATTCTTT CGTGTAAGA 240  
 AGCTGTTTTC AGGATGTCAT CATTGCCCAG TCGCCAGGTA GGTATTGCA GGCGGACCG 300  
 AGTCGGTGAA ACAGAGTCAG GACCCAGAAC GCGATAGAC AGGCGTTTGG TTTGTAGCG 360  
 40 GTGAGAGCTG AAGCAGCTCA AGAGGCCCGC CTGCTCAGG TTGTGCGGTG GCGGTAGAGC 420  
 ACAGCAGGCG ATCCTCGTTC GGTGGAGCGT NCGNCAGNA GCGCAGGCG NTCGAACAG 480  
 GGGTGTTTAT NANGANCNAC CGACCACAAA CAGGCTNINA TTGNAACCG GCGCCAGTTN 540  
 45 CCTCANCNTG GTTCCCGNGA CTGTGTTTNN GAGCCNATCC TTGGCNCCTC GGCNNAGNAA 600  
 AAAA 604

## (2) INFORMATION FOR SEQ ID NO:102:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 480 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1035RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

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GATCTTAAAT TGTTCATG TGACCTGAAA GTTGCCCCGT AGACGCTGCA TATTCAAGGT      60
TTCCATTTC ACCGGACGTA ACCTAATCCG CTGCACCTTC GACAAACGAC TAATGTATCT      120
GTTCTCGGAC TCTGGGTCAT TCGCATCCCC ACTCCACTGT ACTTGTCTTG ACTGTAGTTG      180
TTGAAGCTTG AGGTTATCTG CTTGGAATGA CTGCAGTAGT AGTGATTTTC GTCTCCCAAT      240
CGTTCTATG GACCGCTGA ACACGAAACG TGCCTCCGCC TGGAGGACT CGAAAAGCCG      300
CCGCTCTCT GCAGAAGCG GGAAATAAGA CATACTTGC TCATCGGTA GGTAAATCTA      360
CGTCATTATC CGGTCACC ATGTTGGGCT GGGATAAAAT GGTGTTTCT CCAGGGGGCG      420
GGGAATACCA CCCACTCTCC AATCCTGCCC CGTTTANIGA ATNGVTTNT TNATGGGNN      480

```

(2) INFORMATION FOR SEQ ID NO:103:

25

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 482 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1035UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

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GATCTGGCGT ACGGTACGA TATATTTCAA CTGAGGTATT CGTTAGAACA GCTACCTTCA      60
GTGGTTCCAC GCTATATTGC GTTGCAAATA TGTTCGGTA CCTTCTGGC TTATCAGTGG      120
CATTAAAGAG CGGCTAATG GGGACTATCT CTTTACTGG GCGAGTGGTC TCCAAGAAGG      180
AAGCATTC TC AATATATTTT CCGTGGTTTT TCAGGATGCC ATAATCTGGT ACACTCACAA      240
ACAATTTATG TTGCACTGGG TGAGATGCAG GGGTATTAGT ATTGGAATC ATGTGGTGA      300
TTGTCCCGA TGGGTGGC TTCACAAACG CAGAGGAAA AATATCCCCA GGGGATATT      360
ATNGTCGAA GCAAGAATCG CTTGAGTAG GGATTGAAGA TTTCTCTTG ATACTTAAG      420
CTGAATTGGT TCANATGGG TCCAACGAAN GANTAGGNTG GATGNCCT TNGGGGGGG      480
CC                                                                 482

```

(2) INFORMATION FOR SEQ ID NO:104:

55

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 645 base pairs  
(B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1036RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

```

GATCATATTT CAATGCAAGA GCTCCATTAA TAGGTATTGT CTGAGACAT GCGCTCAAGT      60
CATTAATGTC ATGGGAAAAA TGCACCGTTC CACCTCCTAT CTOCAATGTA TATTTTAGCA      120
TTTCAAAATC ATGTTTTCCTG TTTACTATAA AGTGCAACCC ATTCAAGTCT GCGGCTTTCT      180
TAGTAAAGCC TCTAAAGCGG TAATGCTGCT CTGTATACT GCGTAGCTGT GGGTCAAAAT      240
CGGTAACAGG CTGTGCAAGA AGAGCGGTAA ATTGTTTCAG AAATTCGAGA TGCAATATTG      300
GTATGCCCTT AACAAGTGCA AAACAAATAC TTTTTCGGAA TCTTGGTCAT CTTTATGGGG      360
TCTTAATAAT ATGATGTGTA GTGGGCTCC GAAAAAGAGG TCACCACTCG TATTUCTAAC      420
CCTTAATTAC CTCAGCAAAA GCAGGGCTTC TTGTAACAAA GTTTCGGGAC CTGGACTCC      480
CATGGGCCCC TCCAATNIGA TTGNGGGAT NTGNNCCCT TCNGATANA GGNCTGGATG      540
GCCANCGGAA NCCNTCTAG TGATNTCCN CCCCCTCAGT GNNCCNCTN GAGGTTTGA      600
NGGNNNTT TCNNINGCG GNNVNTCTG GNAACCNCC CCTNT      645

```

(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 613 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1036UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

```

GATCCCCCTT GSTAAGGAGA GGTGTGGCT TGTATTCAAC GCACATGTG GGTATTGT      60
CATTACTCTG GCCCCGTCC AGAGACTAC AGGTATAAAT TCCCATCAA GTGCCACCAG      120
AAGATATGC TATACTGGTT TTGAGCTTGA GCGACTGTTA ACTGCAACCA GCGGGACCGA      180
ACGGGGTAGC TTTTACTCAT TTATPGAGGC TAAATTGGAA CCAGACATCA CAATTCGTCT      240
TCAGTGGGAA ATGGAGCAT ACAATCCAAA ACGCCAGAAG TATACTGAAA TAAAATCCTC      300
TGTTGACTTC AATGTACGAA ATGTCCGGCA CCTGAGCAAA CTGCTTAAAA TATGGGAACA      360
AACAGGGGTG GTCCCATCCA CTGATATCTT GTAGGGGTCA GAGACCATC AACCCATGTC      420

```

TTGAAACAGN CGGCCCTTAT GGGTGGTCAA ATCGNAGGAA AATCTTTTTA GGGTCGNCGN 480  
 NAGGCANCAC TTTTITTANT TATCCGAGTG CAANATGGAA ATAANCATCG TNAATTITGA 540  
 AGGTATTTCG CGGGGNGAAC CANGGNCNC AANNVTITTN NGGGGTNGAA AGANTCAAAT 600  
 TAAATNGGCC NGT 613

## (2) INFORMATION FOR SEQ ID NO:106:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 606 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1037RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

GATCATCATT ATTTCCTGG TTGCTGCGA CGATTGGAAG GCGGGGGTGG GTTCTCTGAA 60  
 GGATTTCAGG CGTATGAATG TTGCTCTCAC CAGAGCAAAG GCCAGTCTCT GGATCCTGGG 120  
 TCACCATAAA TCTTTATACA AGAACAAGCT ATGGATGCAT TTGATTTCAG ATGCGAAAGG 180  
 GGGTGACTGC CTCGAAATGG CATCTCCGGG CTTCCTTGAT CCACGGGAACA GAGCGGCCCA 240  
 GGATGCTCTT CATAGGTTC AAAATCAACA TAATTATATC GAGAACGAG ATGATTATGG 300  
 GCGTGAACCG GTGATGACTA AATCAAGAGG ACGCAATAGA TCATCCAGAA AAGGCAAACA 360  
 TATGGAAGAT AATCCAGATG ATAACIACGA TCCGTTCTCT GAATTCAAGA AGGAAATCA 420  
 AAGAGAAAGC AACACAGGCA CCGGTGGTTA CCGTGGCGAT ACATCTAACC ACAGATTGGC 480  
 AACTGCTAGG AAGGATAGCA AGAAGGCCAA GACGTGCTCC AATGCCGCGG GTATTTCGGA 540  
 GGCTACTTCA NARGATGGTG ATCGAAGTCA GAAAGGACAT GGAACIACGA AGATCTTTC 600  
 ATATTC 606

## (2) INFORMATION FOR SEQ ID NO:107:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 653 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1038RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

GATCAAAAAA AGAAATTACA ATTGACTGTT GCACCCACAC AITCAACGGT TGCACCCACA 60



CATTATGAGA TCCTTGATTT GGGGGAAGT GGCTTTTCCA ACTACAGTCC CGAGACTTTG 120  
 GGTGCCAACC GAAGCAGACT TCAACAGTGG TGATAACCAT AGTGTGGAAG TCTAGCGAAT 180  
 CTAAGGATAA TACCAAGAGA CAAAGCATAA TCGTATGTGC ACAGGATGGG GCGAAGTGTG 240  
 GTCTAGAGCT GTGGGTGGA GCAGAATACG GTGGGGCAA TGAGGACGCC GCAGAGGCCG 300  
 AGCGTGTGGG CAGCTCAGA GGGCCGAGC GCTTCAAGC GGTGAGACAG AGTACTAACC 360  
 CATTCAGAC AAGATGGCTC ACGAAAACGT TTGGGGTCTC CCACCCNNAN AAAGTACGGT 420  
 AAGGGGTCCC CAGTGGCGG TGTCGGCTTC GACTCTTGTG GGTCAAAAG TACGGGTGG 480  
 ACATCTTCCC CAATGGTCA NAGAGAAGGC CAGGACATG GTTCCCAAAT CCCCTAAGAG 540  
 GGGGGGGGCC CTTCCTCTCT TNCNAAATCC GGGGGGGGTT TGGTTTCNCG GAGGTTTTNT 600  
 TATTTTTCNA NACCCCNVTT TITANTTINA NNCNCGGTC CCAGNGTTT GGN 653

## (2) INFORMATION FOR SEQ ID NO:108:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 609 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1038UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

GATCGGTCT CGGGCTCTT TAGCTGCCCC TTATTCAACG AGTCATGAC TGAGAAAGAG 60  
 ATAAAAGCGG TGATAGCGA AAATAAGAAA AATCTCCAAA ATGATATGTG GGGCTTTAC 120  
 CAGCTGGGTA AGTGGCTGAC CAACCCCATC CACCCGTACC ACAAATCTC TACTGGAAAC 180  
 TTGAGACTT TATGGAGCAT TOGAGATCG AAAGGGGTCA AGTCCGTGA TGAGCTGCTG 240  
 AAGTCTTACA AACGGTCATA TTCTGCAAT CTCATGAAT TAGTGATCTT GGGCCGGGAA 300  
 GATCTAGATA CCTGGGTCA GTGGGCATAT GAGCTGTCA AAGACGTCCC TAACCATGGG 360  
 ACCAAAGTGG CTGAGTATCA CGGCCAGGA TTCACGGCCG AGACCTGATG AAGGTAATTA 420  
 AAGTGAAGCG GNTAAAATCT TAAGAGTGTG GAATTCATNC GNGGGCAGA TTGGTTAGN 480  
 ATGGAGGCAG CAGTGGTATG NGGATTTATC GGCAGAGGAA GGTCTTCCG NCTGGAGAA 540  
 AAAGTGAAN CGNCCNCGT NCGNNTCCC TTNAAGGAA AATNCCCN CANNCGCTTN 600  
 ANNAAGNT 609

## (2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 643 base pairs
  - (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1039RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```

GATCATTTCCT CTCGAATCCC ATGACGTGA ATGATGAACC GCATTATCTT TTAAACAGCG      60
ACAACATGCC ACGGTATATA ATTGTCTTA OCTGTGATA TGCAGAACCA GGTGTTTAGA      120
CTGGCAATAT CCTAAACTG GTGTAATATG GTCTTCAAAA GTTTTGCTCT GTCCGAATGA      180
GGGCAATTTA GTAAATTAACT CTGCAATTG TCTAAAGTAT CCCCACGGC ACATCTTTTA      240
AACTCCACCA GCGCGCGCT TTTTATTCG CATCGGCGCT GGAATTAGC AAGTTGTAAA      300
GGGCTACTGA ATACGACGCC ATGCAGCTCT TCATCGATAT TCACAACCTC GTAATCATCC      360
AATTGGTTAG CTGGAATTTT GCGCGGCATA TCTCTTATCC CTAAAAAGTG GGTTCGATGA      420
TGGATAAAAC TGATCTTCAT CATATAGAGA AATTTCGGCT CCCCCAAAG CAGACACAGN      480
CAATGTAGTT TCTGTGGCA NAGTTCCTN CCGAGNAIT ACTCGCANC GGGGAGGINT      540
CACCCCGGAG ACAAATAATC CCCCCTTTCT NTGGAAATCG TGTAGNACC TANCAAGGAT      600
GGGTCAAGGA OCTGGTGGC ATTCCANTTT ACCATTTTIN CCC                        643

```

(2) INFORMATION FOR SEQ ID NO:110:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 635 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1039UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

```

GATCCTTCCA ATAACGGCTA AACATCCATG TGCTGGTTTT AACTATGAGG GAGTTGGAGT      60
AATTTTCGGG TCTUGCAAAG TAAATTGACA GAAACCCCTC AGATCGGTAA CGAAACAGCT      120
GAACGACCGA GATTAAAAGG AAGAGGCAAA TAAGCTATAG ATAAGATCGA TAAATATTGA      180
GGGGGGGATG GATATATTAG AAAGTAGCTT TAGACTTGAA GATGTGCTTT CAGCTATTAA      240
TAGAGTTGAA AAGGTGGTCC GAGTCAATTA TCAACAGTTC GTACCGAGGA CTCAGATGA      300
TCAATGGTGT ATCCAATCCG AGCTTCTTAA TCCGCAAGAA GGATCCGAAA GCGCTGGTGG      360
CGCTTTTTC GGGGGAACCT TGGTCTTTTT AGCATCAATG ACCAGGACTT ACCCATTCOC      420

```

GGGGTTGGAA GGGATAGGCG AACCCCCCNC CTCGGAGAAG AAGGGCCACT TTACGGCAGG 480  
 GTTTTCCAAG GQNAACCTGC AACGCCNNTG GATCTTTTITA AAGCNTGGGG GGATGNTCAA 540  
 TAANAATTCT GAGGCGNAGA ACCTTTGGCA ATTGGAAAAN NNNTTTCCCC GNAAGAAAGC 600  
 NNAGGGANCC CCCCCGGNEN NATTTTUGGA ATGNC 635

## (2) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 648 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1040RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

GATCCAGTGT ACCAGGTAGC GTCAGGCACT TCTAGCGCAA GGGCCGCCGT AAACCTTGGC 60  
 CTCTCACAGC ATTTGGGATG AGTATGGGCC ATCTTTAGGG CAGTGAGTG ATCATGATGG 120  
 GTACAAAAG AAATGATTTT GCCCAGGATC GAACTGGGGA CGTCTGCGT GTTAAGCAGA 180  
 TGCCATAACC GACTAGACCA CGAAACCACT TTCTGCAGGC TCTTATIGGA CAGGTGATGT 240  
 TAGCGCAGAA GAACAIGAAC GTGATAATAA TTCAGAAACC TCTTATGCTA AAGTGAATTA 300  
 CTATIGCTTA ATAACCTGAA GGAATAGGC ATTGCCAGTA TTGAAAATCG GCCTTTGGGT 360  
 TTAITGGCTA ATTATATTAT TNCANTATA TATATATACC AACAGGTGA AGAATGGNTG 420  
 TCGNTGGTTT GGGGGGATA CCGNAGAACC AAAGTAGAAG TTGACAAGTT GGTGGNAGNG 480  
 GTTCAATTCA GNACTTCATG GCAACNTTTA CNATNMVTIN NINAGAAGCC CNATTANTC 540  
 TTTNCTTCG GGGGGTCTN NCAACCGGA AACAATNTIN CNGAAGTGAG TTNGGGGGAN 600  
 GTTCTCGGT NTTTTNNCC TTGGGGTCCA AATTGGGCGG GAANCCCT 648

## (2) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 613 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1040UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

GATCAGCAAC CTTCTCCGCC GTCTGTGTCC TGCTTTTACC GAGGATACGA AAATAGCCGC 60

GGCTCTGTTT CAAATGGCGA TGCTGACGAG CAAACCACGT CTTCTGATGC AAGCAGTACT 120  
 AGTTACATTA TTCTAGAGAT GGAGGCAATG CGGACAGCTC TGCGTCAGTA TTTGAGGGCA 180  
 5 ATCTGCCAAG ATGCAGAGGT ATCGGCCAGT CTGTCCCTAA CGAAATTCCT ATTCAAGAGG 240  
 ACGATAGACA ACGTGCTTTT TACGCCAGAA ATCTTGAAG ATATTGAATC TCGGGAGCTT 300  
 ATGGAIGTAT ACAACCTCGA AAATCAAGTT AAATTCCAAA AAATGGCGGT TTGGATAGAA 360  
 10 CTGTGAAGCT ACAAGTCTC GCTAAAGTTC CTAAAAGAAA AAATCTTGCA AGATATGACT 420  
 ACATTATGAG GTTTTCNCC AATTTAAGGA GAGGAGGATC CCAGNGACNA TTTAGCTCTC 480  
 AGAGATTCTT GGNITGGGAA AATTTTTTAG GTACCNATNC AGGTTCGGG AATNAATGIN 540  
 15 NATINITTAC ANTCGGGNG AAATATGCTC ANAGNNNAAG TTTGGGCACC CCCCCNCTT 600  
 ATGANGTTTT GTC 613

## (2) INFORMATION FOR SEQ ID NO:113:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1041RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

GATCCTCCAC CAGAGCGTGG GGGTCCATA CTTCTGTC ACCGAGTGGC GGGTCTTGT 60  
 35 AGAAAACGCC CAACAGTTGT TTGTAGGTGA ACTCGTGGG GAATTTCTGG GCGCGAATTC 120  
 GCTCCAGCTC CTCTTCGGAA AGCTTTTCAC GGGGCCACCA GCTTCTCATC CGTTTCAACC 180  
 AGCGCTTTTC GTGAGTGGC CGCTGTTCG CGCTTCTGC CGCAGCAATA TCTGGGCGCA 240  
 40 GATGCCGTAC GGGCTCGGC ACTTCATGAC GGATGACGCC CTGCCGCTCT TCTGTGAAGA 300  
 ACTGTAGTC CAACCCAGCT TCGAACAAAC AACTGCTTCA CGTATCGCG CCATACTTTC 360  
 ATGACGTCT CGAGATAGTC GGGCGAGGA GGGGCAACAA ACAACGGAG CGCGCGCGT 420  
 45 TTGGGGCATG TGTGANGTG GCTGGGCTG GGCCTTCACC ACGACGAAT AATGTTGGAT 480  
 TTNGCCCTNG TCCNIGGGG GNINCAATCA GAATGCCGN TCAACCNAN CAAAGGGAC 540  
 AATNCGCGG AACCAAGGG GTTCANGCC GAAAGTGTT ATTNCCNAC TTTTCGGTA 600  
 50 NAATTTTTNT TTINCNCTGG GGNITGNNT NACCNCCACC CCNAAATAA 649

## (2) INFORMATION FOR SEQ ID NO:114:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 645 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1041UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

GATCTGCTTC CTGAAAAATG GCGTCTCTGT CTTACTGGTA CTCTCAAATA GCTACGTCTA	60
GGTACAGGGC CATTTCGGGA TOCCAGCCAC GGGTCCACTG CAGGAGGTAC AACAGGATAT	120
CGCAGTCTC GCGCTGGGCA CGTCACTTGG AGCTCCCGT TCTCGTCTG ACGTCTCAAT	180
AAGGTACGCC GTTCTCTTTC GCGGATGGAC TGGCTAACT GTATGGCCTG GCTACAAGTC	240
TGTTGGTTTC GAGCAGCCCA CTCTTTTATC CACCTCAAG GTTTACCGCA ATCCAGCAAT	300
TTTGGGTCTT GGCACAGCG GATATCATGT GACTTAATTA CGTCAACGTT CAAGAGTTGG	360
GGCGGGGGC AGCAAATTTA ACGGGGGGCG CGGTGCTCC CCCGATCGG GGGGGGGGA	420
GGGATTATC ANTCANIGC CGGCCAAATC TINGTTTACA NAAAGCAAGC ANATCATAG	480
TGATTGGGG GAANANCCCA AGGTNNNGC CNGCANGNT CAAANTCNC CNNTNNTTTT	540
TGGGTTCGG NCGGAAAANN CCATTNCCG AGGGCCNAG GNCGGGAAT TTTCGCCGT	600
TNNAGGGGAG TCNNTTNGG GGGGANNNG CCANAGGAAG GNGGT	645

(2) INFORMATION FOR SEQ ID NO:115:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 682 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1042RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

GATCGTGCT GCGGACAACC GCCAGAGCTC GCCTACAGCC CGTATATATA GCGCGGCTGC	60
CGGCTGGCG CATGCGATTT GTCCCACTC GCTCTGCTTC GTCCCGCTG CCGTTGCTCC	120
ATGGGACCTT TCATTAGTG TCTGGGAAC GTTTCGAATG TACCTATCG TGGTACCAG	180
TTGCTTGGG TGCGTACT ACATCTTCTA GCGGGACTG AGTCACATGT CTGCGCGGC	240
ACTCTTTTC TGTAGATAGT CAGAGACAG ATAGTCGATA GTTGAGATT TGGCAACAA	300
TAGCGTGGC CATTAGCCT GCCATTGTT CCATGTCAT TGGAGGCTG GGNCCACTC	360
ACGGAACTC TTNCCGTTT AANCTNANA GNCCNCGGA ATGNAAAAN CTTTCTTNG	420

NENGGNGCAA ACGGGGCTTN AGGNGATTTC TTGNGGATT NGGGANGCAC TGAGAAATCCA 480  
 AGTNGGAAGG GGCTTNAAA AATNGCTCCG GGCCANNCT NOCCAAAGGT TTNAAAANCN 540  
 5 GENTAAATNA GCNCAGAAAG AACNCGGGA GGAANCANAC ANAAANTNGG CCCCNOCTGA 500  
 AGGAAAGGGG CNGNNITGG GNGGAANCC CNGNAACGNT NTTTCTTAA GGANAACAAA 560  
 NGGTNCAAAA AAAATGGGG NC 582

(2) INFORMATION FOR SEQ ID NO:116:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1042UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

25 GATCGCGTCC TCGAGCGACT TGTGAGGGTG AAGCTCGATA CGGTGATGGT GGTGGTGATG 60  
 GTGGTGGTGA TGGTGGTGTG CTCGCCCCG CGGTATGACC TGGGCTGTGT GGGTTGGGCT 120  
 GTTGCTGCCG ACAGCAGCAC CTGTATCCG AATGCCGAT ATGCTAGAAT GGAGCAAATT 180  
 30 AATGGACTGG TCTGCATTCT TCGAGAGCG AGCCTCGCAC ATGCTGGATA TCCTTACGAG 240  
 ATCGCCGGAG GATCTTTATG TCTGTTTGGC TATTCAACCAC GTGGTGGTGG CAGTGCTGTT 300  
 GTTTCATGAC CAGCCCGTAT CTTCANAGGA GTCGTAGTTC ACGCATGTGT GGGCAAAGCC 360  
 35 AGTGAAGGA GGCCATCTC CACGGTGGG GAGTCCCGG GGGACGTTTC CACAAGCCAA 420  
 GGTACCTAGA AGATGAATCT TTTTIGANTC ANCGTITGGG CCNCTNGGCA ATTTNAAGTC 480  
 GNAANTGNTG AACTTCGGAA AGTTGAAAT TGGNCCNAGG NCTTCTTCCC CCGNCCNCT 540  
 40 TNGGNAAGCA AAAANAAANA ATTAATTGNN CCCCCCCCCG CAAATTGTNG GTONGAGAAA 600  
 TTTCCAAACC TTGGGTAAAT AGTAAGGACC CCGTGNCTG GGCCCNCCC 649

(2) INFORMATION FOR SEQ ID NO:117:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 648 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1043RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

GGATGGGCGA TGGGATAAA AGAATTGCTC CCTGATTGAT TGTTGTTGCA AGGAGATGCA 60  
 GATGGATTGT CCAGAAAAAC CGGTTTAAAG ACTCGTTTCAT CAAACTTGTG AAACCATTTGC 120  
 5 CCATGGGCTT GCAGTATATT GCGCAAGGTT TCGGGATAT TTCTTCTGTC TAATGATAAT 180  
 CGCCCCACAG GCTGGTCAGC GCCTGATGCA GAGGCGAAG AGGGTGGGTC TATCATAGGA 240  
 GGAAAGCTTT CTTGATCCGG GGAGCCGGTC GGGCTGTGGG TTAAAAATGG AGGTGCGTCT 300  
 10 APTGAAGACA TTAGCTGGAC AGGCTTAGGG GCTTCAATAT CAAATTCATC ATCCGTTTCC 360  
 TCTGTTCCTT CTAGCAGCC TGTCCTTATG TTTAAGATCT CAAGCATACC CGCAGGAGTA 420  
 CCTCCAAATA TGATAACGGT GAGAACCACA ACTACGAGCA CAGTGGCCAG AAGAGGGGAA 480  
 15 CTTGGANCTC GCGCNNGA CCCTAGCCA GNGNCACTCC AANAGNACC CCNANCCCC 540  
 NCGNNGG NAACNCCIN NNTTNGNNT TGGATNTCC CNANNANIN AAAACCCCC 600  
 CCGGGGGIN TTNNGGGNC CCNNNNCCC NNNAAGGGN AAAANNNC 648  
 20

## (2) INFORMATION FOR SEQ ID NO:118:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 419 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: 1043UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

35 GATCAGATTG TCTGTGATG GAGAAGCTGG GGCATCAGTA GAGTGCAGAG AAGACCCATG 60  
 CGGAACAACT GTACCACCCA GGGACTGCGG TCTTCCCGGA ATGTTGGGAA AAACAACAGC 120  
 ACGGCTGAG TCACCTACAG TCGAGTGGG TTGCGAGCGC GACAGATTAA AAGAAAAGCG 180  
 40 CTCGGGTTT GTGAACAGT CAGACCAAAA CCCAGGTCTT GGCTCGCGGA ATTCTCGCT 240  
 TACCTTCACA TCAACTTAG TGTTGTGCT GTCCNAAATA TACTCCAAA TCTTGATCGG 300  
 CGCACTCTG TGGTTCATGT CCTGCACAAG TTGACCACTG TATTCCAGTT TGACATCAGA 360  
 45 GGGCGAAATC ATCAGTGTGT GCGTTCACA GAGCAATAA ACTCCTTTAC TTCTGCAC 419

## (2) INFORMATION FOR SEQ ID NO:119:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 606 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG104411

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

GATCTCCGAC TGGCGCGGTC TGTACCGGTC ATGCGCCTTGT GTAGTCGCG TCATGCTCAT 60  
 CCTACCCAGC CCGACCAACC AATGCTGAT GCAAGCTCAA TGCTCGCAGC CCGCGACTGC 120  
 TGTATACGTG CTGGCTTAGG GTGGGAGCT CCGTTTACGG CCGGCGCGCC ATTGGAGTCC 180  
 AGCAACCGGG GAATGCTGTT GTGACTGTAA CAGCCATACA TTGCAGGCGG TACATTTCAA 240  
 CGATGGGAGC CGAGTGGGTG GGGAGCTGGA CCGAGACCGA ACCGGGGGAG CCAGGGGGGC 300  
 GGGCGGCAAT CCGCAGGCGG ACCCAGGGGC CGACCAAGCG GCGGCTAGGC CGAGGGCAGC 360  
 AGGCGAGAGC CCGGGGGGGG GTTTTTCATG AAAAATATAG TGCTACAAG AGGGATAGGT 420  
 TGGATATACC AGAAGTCACT CGTAAGAGAT AATTAAGCAG ACGAAATGGT TGTTTGGAGG 480  
 ACGTTGGTAT CCGGAATCAC AATAATTGA CAAAAGGTTT TTGANTCGGG GAGGTGNTG 540  
 TTGTTGNGG NGCNAGACCG CCGTATTANA NGAAGNGAG GAAACNCAAG ANNGGGGCAN 600  
 GGGGTC 606

## (2) INFORMATION FOR SEQ ID NO:120:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 632 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG104412

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

GATCTACAGA ATGCAGGAGA CCTGCTTGA CACAACACAA ACCGCTGAGA CCGCAGGCGC 60  
 GCGCGAGCGC GTGCAGGAGG CCGACCGCGA CCGACAGGGG GCGGCGGTG ACTCGGCGA 120  
 GCTGCTGGAG GTTGTGGAGC GCGACTACGG GCGGCGGCGG TGCGGCTGG GGACGATACG 180  
 GTACGAGGCC GCGGCGGCGG GCGGCTGAC GCGGCGGCGG GCGGCGGCC TCGGTTTTC 240  
 GTACGAGGTG GCGCAGCAGA CCGTGGCGGT GCGGCTTGGT GCGGCGCATG GCGACGCGAG 300  
 CGATCCAACA GGCTCGTGAC CGTGGAGCTG AGCGCGGAGG ACCTTGAGAG CCGGCTGGCG 360  
 ACGGCGGAGA ACGCACGGGT TCGCAACCC GGAGCTTTTG TGGGTAGNOG TGTCAACTN 420  
 AGANTCGGA CCCNTTCTCT NNTGCTTNG NACTTNNNG TGTNNACGN NGAGCTGAGN 480  
 TCGAGNCA GNAAGNNNC CNNCNCNGN ACGCCNCCA ACCNNNGAN CCGNTTTT 540  
 TAGNNNGTT TAANNCCNC CCGNNNTNN GNGGGGNT CCGCTTGT NNNNNNNN 600



ANTTNTTCATT TTCCCCCTT CGNAGGNTTN NT

632

## (2) INFORMATION FOR SEQ ID NO:121:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 626 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1044RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

GATGGGTGC CTAGTGGAC CTCATGCACC GCTTGGAACT GCGCCCCAC CCATGTCAGC 60  
 ATCTTTATCT TGCTCGACCC TTGACCGAG TAAACAAGCA CGTCATCCA CGTCTCAGCC 120  
 TTCCACATG GATGTTCAA CAGCCAGCA TGGTCAATGC CTCGTTTGT AACTATCTTG 180  
 TGGTAATGTT GTAAGTTGCT CGAATGAAGT ACCAGTAAGC ACTGGTGTG GCGGACGAAT 240  
 ATTGTCCGA GCGGTTGGA GTACAGCAGC TCTTCTACAC CATAATTGG GCCAAGCAAT 300  
 TCTGTATATG TCTGAAGTAG ACCGAGGCT CTCCTGTCCA TACTGGAGTA CACCAAGAAG 360  
 TCCCTATTAT TTCCGAACAC CACAAGTTGT CGAAGGSCAT CAACCACAGG GACACACTGA 420  
 GCACCTTGGG ACGGAATGGG ATTTACTAGC TCAGCCCTAA GCATCTTATG ATGAGGGCTG 480  
 CCTTAGCTT GCTGAGTGT TCGGGCTGCC TGCTTGTTGT TGGTGGGTCC TTTCTTAGAA 540  
 CGATTGTCA AAACCATGAT GATGGGGTIT GGTCGGGCN GGTGATTGA AGATTTAAC 600  
 CGGTNCCAAG GAATTGAACN TGGGGG 626

## (2) INFORMATION FOR SEQ ID NO:122:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 545 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1044UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

GATCTCTTG ACCGCGGTG GCGCTCTCTT CTTGAAGGTG ACACGTGCA ACTGCTACTG 60  
 TTAGTATGG TCCGCTCTG GCGTCGGCTC CAGCAGCAG GGAGCCCTGC TCCGCACTCA 120  
 ACATACCTC TTGTGCAAGT TAATGGTGT CTCGGAGTA ACAAGTCTT TCAAACAGC 180  
 CATTTGGGT GCTTAATTAT CTCTTACGAG TGAGTCTGG TATATCCAAC CTATCCCTCT 240

TGTAGCCACT ATATTTTTC TGA AAAACCG CGCCGCGGC TGTGGCCTGC TGCCCTCGGC 300  
 CTAGCGCCCG CGTGCTGGC CCGTGGGTG GGTGCGGAT TGCCGCCCC CGCCTGCTC 360  
 CCCCCNCGG CTCNNOCAG NTCCCCACGA NTGNGNCCA TNGNGAAAT GTACGGVTTG 420  
 AANGVTTGVT GTTAAAGGCA NAAAAGAATC CCNNTNGGT GGVTTNNAAN NNNGGCNANN 480  
 NNNAGGGAN GNCOCACCN ANNAGAANT TTAANAAGNG NNNNTNANA TNNNGATN 540  
 NANAA 545

## (2) INFORMATION FOR SEQ ID NO:123:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 723 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAC1045RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

GTGGATCCGT AATGIGGTT TGTAGGCCAG AGGGGATTCG ACGGTGGCTG GGGGCCATTC 60  
 TGCCCGTTAA TTAGATGCCA CCAATTGTT TTACATCCC AGGGAAGGT TGCCATACCG 120  
 OCCACATACT TGGTAAATTG ATAATGCCGC CACATGACGG GATACTAAC AAAGCAAAGT 180  
 GTCACATCT TATTTCTGT TGTGGTCAA AATGGGGGG TAGGOGATCA ATTTGCATAT 240  
 ACAACAGAA AGGGGATCG AGATTCTAG GTCACAGGAC AGTTGGGGT TTTTATTGGG 300  
 TGTCTTGTG AAACCATAGG CACTGACAT AGGAGCCCTC TTTAGGTAC AATAAGCAAC 360  
 TGGCAGCAGC OCTACAGCTT GGGCTAAACT TCTCCATTAT GTGAAACGGG AAAGACGACA 420  
 ATGCCCTGA AGCTTTCAC GCCACTTTTG GTGGCCCAAT TGCAATGNTT CCGNAANTAN 480  
 NNITTNNNN TNGGNTTTT TTGNNNAAA AAAACNNNA AAAAGGGGG GGGGGGNNNA 540  
 AAACCANGA TNNTTTITT NGGNNGGGG GGGGCCCCCT TTTTNNAAAN CCNNNCCCC 600  
 CNNNAAANN GGNNTNNNN GGNNAAAAA TTNNNNNNN NTTTTNGGN NNCNNNTT 660  
 NCCCCCCNA NGNCCNNNC CCNNNTTTT TTTTNNNNA NNAANCC CCNNGGNGG 720  
 CCC 723

## (2) INFORMATION FOR SEQ ID NO:124:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 502 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1045UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

	GATCTAATAA CCACCCGTTG TATATTGGG CGGTAACTA TATATGGGA TCATATAAGT	60
10	GCTTAAAAAC ACCTCACCG CAAGGGGGTC ATCTATAAAC AAGCCATAGT GTGTGTATCT	120
	TTGGCTACAT AGCATCATGA CTATGTTGG CACGGTCAT TTGCACTGTT TTAGCATGTA	180
	ACTGGCAGAG CCAGCAACGA ACAGAGCTAA TTTTGGAGGC TTACCATACT GTTGTGGCTG	240
15	GATGTTGAAG CACGGCTGTT GTGGATAAGT TTAGAACCG TCGCCAGCAC ATTATACCC	300
	TGAAACTACC AGTTCACGG GACATGTTCT TCGTGGCTTT GACAGAAITA TTATTGTAGT	360
	CCAGTTAGAT GTACTACCAT TGTGGGCTA ACATAATCAC CATGTGTCATC TCTGGAATCA	420
20	CGGTGGCCA AGCATATTAA TGTTGTACT TAACTCGGT ACTCCCTTTA TCGAAAGGCA	480
	TCACGGAATC GCCCTTCACT AT	502

(2) INFORMATION FOR SEQ ID NO:125:

25

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 515 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1046RP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

	GATGGCGGC GCAAGCCCGT GCGGAGCTC GAGCAGGTC TCGAGTCCG GGGCAGCGC	60
40	GTCACAGAG TAGGGTAGG GATAGAGGAT CTCTCCGAG TAGAGTGCA GGTCCAGGTA	120
	GGGTAGATG TCCAGCTGG CCTTGTCTT GTTCAAGTAG TCGTCCAGC TCGCGCCTC	180
	CAGGGCTCG AACGGCTGCT GCGGCTATA GTGCCCCGAG CAGGGTAGG CGTCTGCCC	240
45	GGTCCAGTGG TAGTGAACG AGTGTCAAT GTGAGGCCA TCGAGCCCG GCATGTACGT	300
	GGGCTGCCG TTCTTGCGC ACAGGGGTC GTGGTCCAC GTGTACCGT AGCGTCTGG	360
	GTTGAACACA GGGATACCA GGAAGTGGG CGGTCCAGG TAGCGGCTT CCTTGGGCGC	420
50	CCGCCATAC CGGAGAGCA GACGCTCAC GACAAAGCAC GCGTGCTCA CGCCAATCCA	480
	CTCGGAGCA TGCAGCGGT CGTAATTAC CACCG	515

(2) INFORMATION FOR SEQ ID NO:126:

55

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 561 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1046UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

GATCGGGGAG CTCCATCATT AGAGGGTCTG GACTTCGGGA AGACACGCAG TGGTATGTCT	60
GTAACCTTTC AATTTCAAAT TAATCTCTCT TTCACTGTAG TTGGGGCTGC TGGGGCATCT	120
CCGACACAAA CGGCTGAGTC GCTGACACAA ACAAAAATC GACTACGGAA AACGACTAAG	180
CGTCGCAGAT GCTATATATA TACAACTTGG TTCTTAATTA GGGTTAGATC CTTGCGAGAA	240
ACAGACGTTG AGCTTGTGCA CTTCAACAAT TTAGTCCCGT CTCGGAAGTT TCCAGGCAAC	300
ACGAATAACA ACACATATTG CCATGGCATC GGTAACGTTT AAAGACAATG CGGAAGTGAT	360
AATGATAGGT GAGCAGGATC GGAGAAGAGA GCAAGGTATG GCCAGGCCCT GGATAACGGG	420
ATTGATCGAC GCGGATATCA TGTTGGCAAAA GGACGGTCCG TAACTCATAG TAGACATCGC	480
CAAAGAGAAC TTGACAGCT TATATTGACA TTGCTCTCT TOCTCTACAT TGTGAGGCA	540
AAGATATAAG AGAGTATGGT G	561

(2) INFORMATION FOR SEQ ID NO:127:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 685 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1047RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

GATCGAGTAG ATGTTCCGCA GCGCTGGCAT CTTGAGGTCC CGGTACGTCA GGATGAAGTC	60
GCCAATGCTG GTATCCAGCG TGAACCGGTT GACGCCCTGC CCGTGGTTA GCATGACGTG	120
CGTGACGGG CCGTACATCG CGTAACAGC TGCCAAGATC TCCCGGCCG ACCGCAGCAC	180
ATCTTGATT GTCCCGCTCG AGTCCGAGT CAGCTTGAAA ATCGAAACGA TGTGCCCCAC	240
CGACACACCG GGTCCAGGT TCGACGACC GTCAATCGGG TCGCAGCACA CCGCATACGT	300
CCACCGGTC TCCGGGAACA CGATCAGGTC CTCCTGCTCC TCGACACCA GCACCTTGAC	360
GTCCCGCTG GCTTCATCG CATGTATGAA GATTCATCG CCCAGCACAT CCAACTTTT	420
CTGCTGGTCC CCAGTCGGT TAGACCGGCC GGAGAGCCCA ATCAGGTTC CAGCTCCGC	480

CGGTCTGATC GTCTGGGAGA TGAAC TTGAA CGCAAACGAC AGTGAGTTGA GCAGCAGGTT 540  
 5 GAACTCGCCC GTCCGGTTTT TGGCCGAGCT GCGCTGGGAC TCCAGGATGA AACGCGCCAG 600  
 CGTAATGATA TCCGTGTGGA TAGCCTCTGC GGAGTCGGGT CTCTGTGGGT TCACGGTAGC 660  
 CATTCTGCT TGAGTGGGCT GTGGT 685

(2) INFORMATION FOR SEQ ID NO:128:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 678 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1047UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

GATCACTCCC CTCGCTTGAA ACAATGCCGT ATAGCGGAAT CTGGCCGAGC ACCAAGAAGA 60  
 25 TCAGCAGCGA GACGGCTGTC CAGATCAACT TCTGGTTGTA TGGCACTTTG CGCTCGGGCG 120  
 CGATCACTC GGGCAAAAAA GCTCGAAGG GTTTGAATAG ATCCAACAGA CGCCCACTCA 180  
 30 TTTCAGGCTC ACAATGTTTG TAGGTAGCTT GCTGGGCTTG GATTGGCTAC ACAGTTGGAA 240  
 CCACACAAAG TCACTATTGG GCGAGATGGT ACTCTAAATG ACTGCAAGCA GAACTGGTGC 300  
 GTTTCGTTTC CTGAACAGCT TAATTGACT GAGTTGCACT AGCTGTACTG AAAGGAACAC 360  
 35 GTATCTTGAA AAAATTATAA ATCTCAGTAC CACGIGACCG GATACGAGGT GCTATTCCAT 420  
 CTCCTAGAG GAGCTATATG CCTAGTGGC GTACCTTGG TGAGTAAGAA TAGCTCTCTT 480  
 GGACAATAAT CCGTATGAC CTTATTATGC TATAAGCTA TTTTACATAG CAATGGATCT 540  
 40 CCGTGTTTAG ACCTTTGGC CGCCAAAAGA CCAAGTACAT CAGCACCGAG AACAGCAGGC 600  
 AATGCCAGG CGCTGTGGA GCTOCAGAAG ACATGCTGGA TGCAAAACCG AAGAAAGCCG 660  
 NTGGAGTAC AGTTGGCG 678

(2) INFORMATION FOR SEQ ID NO:129:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 638 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 50 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1048RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

5 GATCGTCATA GTCCGCTCG TCGTATTGGT TCCTTCTGGG CCGGCGCTGC ACCGGCATAAC 60  
 CCATGGCGTC CACCTGCATC TTGTCATCCG CGTCCATCTC GTGTCCAGA AACACCTGGC 120  
 TATCGTGGAG CATCTGTCC CGCGATTGA GCTGGCGTC GATCGGTCC CGGTCCGCCA 180  
 ACGACAGCTC CTGGTGTCC GGTGTGCA CGCCCTCATT TTCATAGAAG TCCTTGTTC 240  
 10 GATTGGCGT ATAGTCCCG TACATGTGT CGCCACCAG GTGACCTCG TCTATGGCT 300  
 CTCTGGCTC ATCCAGGTG TCTTGCAAAC TGATGCGCT CGTCGCGTC GGTAACTGGG 360  
 GTTCTGAAG TGATCTTCG TCCCGGGAC CCCAGGGG AITATTCOC CATACGGAA 420  
 15 GCGGGGCGG CTUCCAATT GTGGGAAGAT AGTGGGTCT CCGAGGTCT TTTGACCTG 480  
 TGTAAATATC CACTGTCTT TTCGGTCAA CTATAGCCT CNGGGCCNGG TINACCCCC 540  
 ATCCCGTATG GAAGCANCA ATAACAAATG CCTCCGAAA NITGTGNTT TTCNATTTT 600  
 20 GGAANAAGTA AGTTCTNANA ANGAATTTTN NANTNNN 638

## (2) INFORMATION FOR SEQ ID NO:130:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 621 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1048UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

35 GATCGCGTC CTCAGCATG GCTTCTCTA ATAGTAACAC ACGCCCTGCT TGTAGTCTG 60  
 CGAGGTGCAC ACCTACCCGC GCAATAATG CCTCATCTGA CAGCTGCACC TGTAGAACT 120  
 40 GTGAGCACCG GAAGTGCAGC TTCTGCAGA AGCTTGTGAG ATATTTGTAG GGGTGTCTT 180  
 GTGTGAGAAA GTTCTCACC CGTCATTCT CGTAGGATC ACGGATCGA CTTGGCTCT 240  
 GCGCGCACAG CCGGTACCCG CATAGCTTGT TTAGATTGG CTCATCTATC AAGTCTGAAT 300  
 45 ATGTGGGCTT GGGGAAAGAA CCTTCCACG TATTTTAGTG TCTGGGTGT GCATTCTGT 360  
 CTTGCGAAGA GCAGTTCGA GCAATTCAG CGTCAGAAG TCCCCCTCT TTAGTGAAAG 420  
 NNGCGATGTT GGTGATAGGA ACTTAAACC CGTTTGGNT TNCNCAATA GNAGCCANNA 480  
 50 CTTANGTAC GGTNINCGT TCTTAACCC GCGGGTCCC NCGNGGTTT CAAGTCTTG 540  
 GGGGANAAG GTNCCGNTC CCGGGGTNC GCTACTTAA GNGAGCCAN AAGGNAAG 600  
 NCCCCGAA AAGTGNNTT T 621

## (2) INFORMATION FOR SEQ ID NO:131:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 480 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG149RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

```

15  GATCTTTTCAG CTTTGGCGTG CTATGGCAGG CAGGCTGGGC CTTTATGGGC TCAATGCCCTC    60
    CCTGACGACT CTCATGTGCC TGTGGGCAAT CTGGTCAAGT GGGTACTATC CAGCGAGGGG    120
    ACTCCCTATG GCTGTTCAG ACAAAGCGAA ACTCAGCATG CTCTACGTCG CCTACTTCTC    180
20  GATTCTCTCG CGGCTGCTCT TTGTGTGAGG TCTGGAGCAA TGCAGAAGTG CAACACTCTA    240
    TATATAATCA CCTGACTATG TAACFATTTT TGGCATAGCA CGTTACGTTT TGTCAAGATT    300
    CCACTCAGTT AGCTGCCCTG AGCAACCGGT GAGCTCCGAA AAGGGAATTC GCTACAAGGT    360
25  CTTAGGGCAT AGNCTGCAA CTGGCTTTGG CTAGGTCAAT TGGTTTCTCT GGAACCATTC    420
    TTGGTATAGA CTCTTGCGTA TTGATGGGGC TGAGGAGTGT TTTNGGGA GCAAAACACC    480
  
```

(2) INFORMATION FOR SEQ ID NO:132:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 477 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1049UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

```

    GATGCTCTCC TGGGCGACAG CGCTTCTAG ACCCTGACG GCGACACCT TGATGCTGCT    60
45  CTGCTCTCA AACSTACCCA GACCTTTGTA GTAGGTGACG CGTTTCTCT TGAAGAGCAT    120
    CTCAATACCG CCAGTCAATT GCTTCACAAC GGTTGCTTG GCTTTTGA ACTGGGGCAT    180
    GTTCACASTG AACTGGGCTT TGACGTGAT ACCGGGCTGC TTGGCATCGA GTTCATCTG    240
50  GTGACGAGG TGGAGTTGT TTAGCAGCGC CTGGATGGG ATACACCCA CGTTCAAACA    300
    GGTGTCACTT AGAGGGGCGG GCTTCTCCAC ACACGGGGG TCGAAACCA GTTTGTTGCA    360
    GCTTCTGATG GCGGCCACNN TTAACCAACG GGGACNCCA CCCATCAAC ACAAGCTGG    420
55  GGTTTCTTTT TGTGGGAAT TCAACCAGG CCGTTTNTT GGGAGACCN CTTANNC    477
  
```

## (2) INFORMATION FOR SEQ ID NO:133:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 443 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG105CRP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

```

NNNTTNTGG TGGGGCGTGT AGANTAGTGG TGGGGNGGC GCTOCACATT CTCCATGCTC      60
ACCACCAAGA CAGACTGGAA GTACAGGAAA AGGACATTG TCGTCGAGA GATGTGGAC      120
GGGGCGTTCG AGTTCCCAA AGCAGACAGC GTTCGGGACG CCAGCAGTCC AAGCCCCCA      180
ATTGTGCGCG TGGCCACTT CACAGGTGTT TGGGCCACGG TGGGGCGTTC CGTGAAGTCC      240
GTCTGGATGC AGACACCTG GTCGTTCGAC TGGGTTTCGT GTACCATCAC CTTGAGGTAG      300
GGGTCAATTGT CCGGCACCTG GTACGTACG CCGGAATCT TMTTGTGTT CTCGGCGCTC      360
ACATACTGCA CGGCTGGAT CTGAATGTCA CCGGTGTCA CAGACAAAA CTGCTTCTAG      420
CCGATCCCAT ACATGTCCCT CCG                                     443

```

## (2) INFORMATION FOR SEQ ID NO:134:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 400 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1050UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

```

GATCCCTTCG TATGAAGTAT GCAGCTGTG ATATGCTTAG TTAACCTCTG CCCAGCTATT      60
TAAGCTGCAA TTGAATGGC GGTGACTCAG CTTCCAAAGG GTAGCAGAGA GGACGGGATG      120
GGTTTATTCG GAAAGGATAG AGGTGAACGG ATAGCTGAGT TTCGTGTTA CCTGCTAGAG      180
ACCGAAGCC ATCTGGTGCC GNTGNCAGGG GATTCATATC AACCTTGTA TCGAGCGGAC      240
ATATNGCGAG CGGATACTAG GGCAGNTCC TGGGATAGGT GAGGCTNTAG ACCGGCGGCT      300
GACGGGCGCT TTTGAGGCG CAGAGGTACC CCGCGGGTTC GCGGAGGTGA TGAAGCGGTT      360
CCAGGAGCGG TAGACTCCC GGGACAAAA ACCCAGCCCC                                     400

```

## (2) INFORMATION FOR SEQ ID NO:135:



## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1051RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:135:

GATCAAAATT GACATGTAAT TAATATATTG AGGTAAAATC TAGATAATAA ATACTGCCAG 60  
 CAGTCTGAC CAACTTCCAT TAGCAAGCAT ATAAGAGGTC TTAAATCAGC CGAAGGTATA 120  
 TGGAGGGGAA GATAGATCCC CCGGCTGCA GGAATTGAT ATCAAGCTTA TCGATACCGT 180  
 CGACCTGAG GGGGGGCCCC GTACCCAATT CGCCCTATAG TGAGTCGTAT TACGGCGGCT 240  
 CACTGGCCGT CGTTTACAA CGTCGTGACT GGGAAAACCC TGGCGTTACC CAACTTAATC 300  
 GCCTTGACG ACATCCCCCT TTGCCAGCT GGCGTAATAG CGAAGAGGCC CGCACCGATC 360  
 GGCCTTCCCA ACACTGGGC AGCCTGAATG GCGAATGGAC CGGCCCTGTA OGGGCGCAIT 420  
 AAGCGCGGCG GGTGTGGTGG TTACGCGCAG CGTGACCGCT ACACTTGCCA GCGCCCTAGC 480  
 GCGCGCTCCT TTGCTTTCT TCCCTTCCTT TCTGCCACG TTGCGCGGCT TTTCGGTCA 540  
 AGCTCTAAAT CGGGGGCTCC CTTTAGGGTT CCGATTAGT GCTTTACGGC ACCTCGACCC 600  
 CAAAAACTTG ATTAGGGTGA TGGTCACGTA GTGGGCCATC GGCCTGATAG ACGGTTTTCG 660  
 CCGTTTGACG TTGAGTCCAC GTTCTTTAAT AGTGGACTCT TGTTCCAAAC TGG 713

## (2) INFORMATION FOR SEQ ID NO:136:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1051UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:136:

GATCTATCTT CCCTGCATA TACCTTCGGC TGATTGAAGA CCTCTTATAT GCTTGCTAAT 60  
 GGAAGTTGGT CAGCACTGCT GGCAGTATTT ATTATCTAGA TTTTACCTCA ATATATTAAT 120  
 TACATGTCAA ATTTGATCCA CTAGTTCTAG AGCGGCGGCC ACCGCGGTGG AGCTCCAGCT 180  
 TTGTTCCTT TTAGTGAGGG TTAATTGGGC GCTTGGCGTA ATCATGGTCA TAGCTGTTTC 240

CTGTGTGAAA TTGTTATCCG CTCACAATTC CACACAACAT ACGAGCCCGA AGCATAAAGT 300  
 GTAAAGCCTG GGGTGCCCTAA TGAGTGAGCT AACTCACATT AATGCGGTG CGCTCACTGC 360  
 5 CGGCTTTCCA GTGGGGAAC CTGTGTGOC AGTCGATTA ATGAATGGC CAACGGCGG 420  
 GGAGAGGCGG TTGCGTATT GGGCGCTCTT CCGCTTCTG CTCACTGACT CGCTGCGCTC 480  
 GGTGCTTGG CTGCGGCGAG CGGTATCAGC TCACTCAAAG GCGGTAATAC CGGTATCCAC 540  
 10 AGAATCAGG GATAACGCAG GAAAGAACAT GTGAGCAAAA GGCAGCAAA AGGCCAGGAA 600  
 CCGTAAAAAG GCGCGGTTC TCGTTTTTC ATAGGCTCG CCGTGACGA GCATTACAAA 660  
 AATCGACCT CAATCAGAA GTGGCGAAAC CCGACAGGAC TAT 703

## (2) INFORMATION FOR SEQ ID NO:137:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 595 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG105211

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:137:

GATCTCCGCT TCAAACCAGC TAGGACGAC CGGAGGTCTT TCAGAGAAA GTCAACAATC 60  
 AATATCCTGG GTAAAGCTAG CACCGCGAA CTACTTGCTC TTGGCACCAC CGCAAAGGCA 120  
 CACAACGAAA ACTGGGAAGA TGAAGTGAAG AAACAACAAA CGGTACCGT TGATGACCAG 180  
 35 GTGTFTTCC CAGAAGATTC GCGCTTTGCA GAGCAGTGC AGGAACCAAA GACCTCAGTG 240  
 TCCGGCTACA TCAAGAGGAA ACTATCCCTC AAGCGTATA AATCCACAAG ATCCAACTGT 300  
 TCGCAATATG ATAGGTTACA GACTAGATA TGGATGTTAA GTATAGAAA ACTGTATATT 360  
 40 ATTTGACGTG CTGGGCGTTA CGGAACATA TAAAGATTTA ATTACTCATG GCGGATGGT 420  
 ATTTTTTCAT GGGCCCACT GACTCCATT TGGCAGTTG GAGGACGAAG TAGGAACCCA 480  
 ATGCTGGTT ACAAGCGCTC GGTTCATGT ACCCTATACA CAAGTATCCA TTATTNGGC 540  
 45 TTATTGATTT GTGTCTNTGG GCGGACTTT TACTTTCTC ACTGGGGAN GTCCT 595

## (2) INFORMATION FOR SEQ ID NO:138:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG105212

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:138:

5 GATCTGGGTT GCGCGTGAAG ACCACCAATG CGATGCACAC GAGTATCATG ATCAGCAAGA 60  
 TTAAAGAAAA GACAGCGTTC AAAATAAAAA ATACCCATGC CATAATGGAG CTGACGCTTG 120  
 CAGGCTGTCC AAAGAGCCCT GAGAAAAATA AGAAGAGGAA CGAATTAAAC AGAGTAACAC 180  
 10 TGGATATCAT AATGTTTCAAG ATGTTAGTTC GCGGTGCGAG GTACGGGCTG CATTTAGCCA 240  
 GAGCTGGGAG GTATATTATT TCAATGACAA ATAGAGCGAC GCGCTGGGTT TTACCGGAAT 300  
 TGTGGGCAAA TGCAATAAAT ACCGCTTTCA ACAAATATG CCGGAGGATC ATGCAGGACC 360  
 15 ACCAGTAGTG TGTGCGACTG TACATTGTGT AGAAGAAGCC GTATTGTGT AGCACATTTT 420  
 CATTCGCCCA TAGAATGGCA GCTGGGTTTG AGTGACACCC AATGGAAGCC CTTCACNGT 480  
 AGATAGTGGG GCAGGCAGCC CAGCCATAA TTGACAAGAT AAANGTAGAG CTAAGNCTGC 540  
 20 CAGAACGACC NCGCGCGGG ATCAGCGTTC ANTGATTCCC CACCAGCAGA GATCGCNATT 600  
 GANTGACCCC GGCAGTTTIN CGCAA 625

## (2) INFORMATION FOR SEQ ID NO:139:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 486 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 30 (ii) MOLECULE TYPE: DNA (genomic)  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1052RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:139:

GATGCGGAC GCGTGGGGC AGAACCTGGC GTGGAGCATG GGGCTGATCC GAGTGGAAAT 60  
 40 CATGCAACGC ATCTTCGGT GGTACGTCCA GCGAGCGGC GCGAGCCGT CGCTGCATTT 120  
 GACGTCAACG ACCAGTCTG TGCTTGCCA ACGCTCCTG GATGCGCTAG TGGCGCGGCC 180  
 CGTGAGCAAG GCGACACAGT CGCTATTTC CAGCACACAC ACCATGATCT TCAGAGGGAT 240  
 45 CCGTAGACTG GCGTACGTG CGAACATAGA GAGCTCATCG GTTGTGTGTA CCGGCTAAC 300  
 GTCTTCCCT CTGTCCGCT ATTTGGATTG GCGTGGCGGT TTACATTTGT TCAAGCGGG 360  
 CTACTCGGAG CTGCTTATCC CGCATGAAG TCAATGAACC CAGGTCCGG TCCCTAGACT 420  
 50 TCCAAGAAAA ACGTGGTGA TTGNGCTCAA AGGTGTCTT TTGGGTANA TCTTCCCCG 480  
 NGTTCA 486

## (2) INFORMATION FOR SEQ ID NO:140:

55 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 468 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1052UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:140:

```

GATCCAGCTC TTGGCGGTA TGAACCTTCC GGGCCGCACC GGGCCCTGCG ACACCGAAAT      60
CGACCGCACC TCCGTCTGGG TCTGTAGTTC CCAAATTTCC GGGGGCCCCG AGTACAGCCT      120
GATCAGCACC CACGGCTGCG TGGGGTGAAA GTCAATGCCC TTCACCTGTG CTGTCTCTGA      180
GACAAACGTT TTCTACTCAC GTTAGTACTT GCTCCGCGCC CTGGATAGCA TGGTCGAGCT      240
CTGCGGGTCC GGGCCCTCCG TGGGTGGCAA AGATGGTCTT CAAACACACC GTAATAGGCC      300
GTGCGCGACC ATGCAGGCCC CATTCGTCTT CGGACACACA CATACCTTCG TTTCAAACT      360
TCATGGTCC CCACCTGGGA TTCTAGTAG CTGTTCAACT CGGCTTTTGG GGTTCTGTG      420
GAAAANTAAT ATTCCNTGG ATTATTTAAA TAGGGGTCCN TTTTNTTT      468
  
```

(2) INFORMATION FOR SEQ ID NO:141:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 672 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1053RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:141:

```

GATCATAGTC ATTGATATCG GGAGAGGGTT TGTATGIGA CAGCCTGTAT TCACGTATCT      60
GGTCTTCAC TTCATATATT TCTTGTGGGA GCTGTGAATA TATCTCATG CGTTCTCTGT      120
TGCATTTTTC GTGCATTTTG TGAATGCAG CCCACTTCTC GTACGTTGAA GTAGGCTTGG      180
GTACTAACGA TCCCTGAACA GGGAGGAGGC ATGTTGCGAG GGAGAATATT AAGGAATCAT      240
ATCTCATTTT TACGTCTGAG ATAAGTAGTA CTAAGTGCAA TCGGGCTCC AAATACCGT      300
CGTAGTAATC GTATAGGAGC AAAGCTTCAT CTCTTATACG ATGTGGAGTT GATTCACTCC      360
ACTGCAGCCC TTGGTATTTA GCCAGCATTC CATCATATTT GGAAGTATAA TATTGGAAGT      420
TCTTCACCG GTCTTATAC GGATCAATTA CTGATTTTAC AACATCGAGT AATATGAAA      480
GATATAACTC TGGATGCCC TGTATGACTT CCAGCACGCC ATGGAACATA TCCCGAATGC      540
  
```

CGTCGGCGCA CTTCGAGACT AACCTTGGGG TGTATATCTG CTCTTCGACT GTCCCATGGT 600  
 TGAGGTAGGT ATCTTCAGGT AGAATGAAGT CAATGAGCGA TAAACTGACT TGCTTGAATC 660  
 5 GTCCCAAAGA GT 672

## (2) INFORMATION FOR SEQ ID NO:142:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 609 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1053UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:142:

GATCTGGGCT CGCTGCTGGC GCTCGAGCCC TACTGGGCAG AGCGCTACCC AATAACAAC 60  
 GCCCTAATCG GCGGTGCAGA TAAATTCAC AAGCTCTACT CAACCGATTT TCGGCCCATC 120  
 GTGGCCGCCA GGACTTTTCG CTTGAACCTC GTGACAAGC TTGACCGCT GAAAGACCTC 180  
 25 ATAATGGCAA AGCTCAGCGG CCCAAATTAA TAGTCAGTG TACATAAAGG TTTTCTAAT 240  
 AGCTATACAG CTTGCCCCGG TCCTCAGCTT GCAGCGCGCA ACCGGCGTGC AGCCATGAGC 300  
 GTCTACTGG AAACATCAT TGGGAGCTT GTAGTAGACC TGGACTACAA GACATGCAGC 360  
 30 GCGGAGAGCT ACAACTTCT CAACTCTGC AAACTCGCT TCTACGACTG TCAGTGCATC 420  
 TACCGACCTC CATCTGAAG GCTCAGCAG CCTCGGCGA TCCACAGGTG GCGTTTGCAT 480  
 TCCGACCGGA TTGCGCTGA CACAATACCT CGATGAAGG CCTGCGGAC ACACGGGCGG 540  
 35 TCACCCGGA GCTCATTGAA GCGTCCGTTG CCGCTCAACC CGCAGAGCGC TTGGACAGG 600  
 TCGCCTTG 609

## (2) INFORMATION FOR SEQ ID NO:143:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 594 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1054RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:143:

GATCGTGGC CGGTCGGCA ACGACAGCTC CTCGTGCTCC GCGTGTGCA CGCCCTCAT 60  
 55 TTCATAGAAG TCCTTGTTC GATTGGGGT ATAGTCGGG TACATGTGT CGCCACACG 120

GTGACCTCG TCTATGCGCT CTCTCGGTC ATCCAGGTG TCTGCAAACG CGATGCGCTC 180  
 GTGCGCGTCG TTATCGGGGT TCTCGAAGTC GATCTCGTCC GCGGACCCCA GCGGCGAATT 240  
 5 ATTCUCCATA CGCGAGCCGC GCGCGCTCCC AACTTGTCGC GAGGATGGTG GGTGCTCGTA 300  
 GCTCTGTGAC CTGCTGTGAC TACTCCGCTG CTCTGTATCG TTTTCATCTC TAGCCCTTCT 360  
 GCGCCCGTGT GAACCTTCCA TTCCGTTATG CGAAGCCATA CCAAATTAC CAAATTGCCC 420  
 10 TTCTGAGAT CTGAATACT ATCTCCAGA TGTGTGACAG ACGGCGAGCT TCTCAGATA 480  
 CGAAATATCG TGATTTTACG TGACTTTCAA TACCTCATTT GGATTGGATT GGTAAGCAT 540  
 AGATTTTCAG TCATATTGAA AAATTATTTT CAAACAGGGC AATTGGATGA GCTG 594

## (2) INFORMATION FOR SEQ ID NO:144:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 545 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1054UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:144:

GATCGTCGCG TTCCGCAGGG CTGCCAAGC AAGCCTTGAC ATGTCAAACC GCTTGAAAGA 60  
 AGAGGTGATA TGGGCCACCC ACGAGGCCAA GTGGGAGCAA CTGCTCGCTA CTGGGACCTT 120  
 TCCCCAGAT GGGGCCAAAA GCGACTGGAA GCCTGGCCGA GCATGGCTGG AACCATATGA 180  
 35 GCGCGGTTT CGGAACAGC TTGCAAATCG CAAGGCGACG AGCCAGAAGC TCAAGCGCTA 240  
 TAGTGCCCAA ATCAGCAAGG TACACCTCCC GTATTACATT AAGTGCAGTG CTCTATGCA 300  
 TACCGTGGC GCCAAAGCT TCGAGTGTTT CCAGAAAGAG CTCCACACCG TTAATCCATT 360  
 40 CGTTCAGGC AGAGATCTCG GTTCCCTACT CTCCAAGTGG CGAATGGTGA ACGGAAAAA 420  
 CTACTATGCG TGAATGTATA TAGTTTATAG TCCTATTCTT TCATCAGGTC TCCCAGCAGA 480  
 GCGGCGCGCT CGGTCTCAAC TATGCGCACC TCGCTCAGCC ATTGCTGAG GTCTTCTGA 540  
 45 GTTCG 545

## (2) INFORMATION FOR SEQ ID NO:145:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 532 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1055RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:145:

5 GATCCGTCGC CGGTCCGCCA ACGACAGCTC CTGTGCTCC GCGTGTCCA CCCCCCAATT 60  
 TTCATAGAAG TCCTTGTTGC GATTGGCGGT ATAGTCCGGG TACATGTGCT CCCCCACCAG 120  
 10 GTGACCTCG TCTATGCGCT CTTCGTGGTC ATCCAGGTGC TGTGCAAACG CGATGCGCTC 180  
 GTGCGCGTGC TTATCGGGGT TCTCGAGTC GATCTGCTCC GCGACCCCA GCGGCGAATT 240  
 ATTCCCCATA CCGAGACCGC GCGCGTCCC AACCTGTGGC GACGATGGTG GGTGCTCGTA 300  
 15 GCTCTGTGAC CTGCTGTAC TACTCCGCTG CTCTGTATCG TTTTCATCTC TAGCCCTTCT 360  
 GCGCCCGTGT GAACCTCCA TTCCGTTATG CGAAGCCATA CCAAATTAC CAAATTGCC 420  
 TTCTGAGAT CTGAATACT ATCTCCAGA TGTGTGACAG ACGGCGAGCT TCTCAGATA 480  
 20 CGAAATATCG TGATTTTACG TGACTTTCAA TACCTCATTT TGGATTGGAT TG 532

## (2) INFORMATION FOR SEQ ID NO:146:

## (i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 553 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- 30 (A) ORGANISM: PAG1055UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:146:

35 GATCGTGGG TTGCCCAGGG CTGCCCCAAG AAGCCTTGAC ATGTCAAACC GCTTGAAAGA 60  
 AGAGGTGATA TGGGCCACCC ACGAGGCCAA GTGGGAGCAA CTGCTGGCTA CTGGGACCTT 120  
 40 TCCCCAGAT GGGGCCAAAA GCGACTGGAA GCCTGGCCGA GCATGGCTGG AACCATATGA 180  
 GCGCGCGTTT CGGAACGAGC TTGCAAATCG CAAGCGCAGC AGCCAGAAGC TCAAGCGCTA 240  
 TAGTGCCCAA ATCAGCAAGG TACACCTCCG GTACTACATT AAGTGCAGTG CTGCTATGCA 300  
 45 TACCCGTGCG GCCAAACGCT TCGAGTGTIT CCAGAAAGAG CTCCACACCG TTAATCCATT 360  
 CGTTCCAGGC AGAGATCTCG GTTCCCTACT CTCCAAGTGG CGAATGGTGA ACGGTAAAAA 420  
 CTACTATGCG TGAATGTATA TAGGTTATAG TCCTATTCTT TCATCAGGTC TCCAGCAGA 480  
 50 GCGGGCGCT CGTTCTCAAC TATCGGCACC TCGTCAGCC ATTGCTGAG GTCTTCTGT 540  
 AGTTCTGAC CCG 553

## (2) INFORMATION FOR SEQ ID NO:147:

## (i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 556 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1056RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:147:

	GATCATCAGC GCGAGCTTCC AATTTGTGGG CTTTCTGTTG ACATACATCC TCCACACCTC	60
	GCATGCCGGC CCCCAGGGCT CCGCTTTTGG CTTCCGGCTG ACCCTTCACGG GATACGGGTA	120
15	CAGCATGATT CTTAGCGACG TGACGAGCAA GGTCCGCCAAG GACCGCGACA TCGCGCGGCT	180
	GGAGCTGGAC GACCCCAACG AATTGGAAGA TTCCGACCTG TACTCGCCGC TGGCGCAGCC	240
	GGCGCAGGAC CGCTTCGAAT CACAGCTCTC GCACGGGCTG ATGGHAAAAC GGCGCAGAAT	300
20	TCCGGCGCTC GCGATCGTGC TAGAGATTTT GGGGCTTGCA ATTATGTGCA AAAGCGTGTA	360
	CGACTACATT GTGGTCAAGC GCATGGAGCG CCGCATCTTT ACTCGGAGCG ACAGCGAGAG	420
	CCCCGCATAG ATGTCATAT AACTTATATA TCCCTCATTG ATCTTGGCTT GGGCCCCGTC	480
25	TAGGGAGCAG ACCAGCAGTT TCTTCGTTGG CCGTNAAGTC GATGCCGCCA GAGAGACCAG	540
	ACGCCCCAGC GGGGTA	556

30 (2) INFORMATION FOR SEQ ID NO:148:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 550 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1056UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

	GATCCAACCC AGGACTTCTC GAAAGATAGA ACTCCGAACA CAGCCACCGG CAOGAACTTC	60
	TCATCAGCTA GCAGCAATAC TAAGCAGACC TTCAGCGAAA ATGAAGAAGA ATCTGATGCT	120
45	GAGTTCGAAG ATGTATAGTT GTACCGTAT ATTGCATTTT TTTTTTTTTT TTTTTTTTTT	180
	TTTTTTTGGG GATGTCAAAA GCTCATCTCA ACTCATGAC CAGCCAGTAG TGAATAAGC	240
50	AGTGTGTCTA GTTCTTCTAA GTGATTTTAA GGACTATGAG CTTTAATGAG AAGGTGAAGT	300
	GGTACTAGG CACTGCTGTT GCGACTCTAG TTACGATAAA GTCTGTGGAA GCCGTATATC	360
	GCTCTATGC AGCTAAGCAG AACACTAGCA GGAGCATTTT TGGGGAGGAG AAGGACGTAA	420
55	GACTGGCCAA ACGGATTGCT GAGTCTAGGG CGTACGATGA GGAATTATAT CCGGAACAGT	480



TAGCTCGGAA CTACGCATTT TGGGCGAAGA CGGTATGGCA CGACTACAGG AACAGTACTC 540  
ATATGGTGGG 550

(2) INFORMATION FOR SEQ ID NO:149:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 653 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1057RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:149:

GATCAGGGCC AAATCACTGC TAAGTACAAA CACAAAGGGC CAAGTATTAA GGTGAGAGAG 60  
CGTTACAGGT GCATTGATAA TACGCGAGGT ATATATCAAG GCGCACAGTG AACACATTCT 120  
GCAGACGATA GATATGTCTG AGACGAAGTA GGTGAGATA TTTACGCACA AGCCTCATTT 180  
GTAAGATAAA TGGTCATTAC TAACGTTTTT GGTMTAGCA GCAGCAGGCG GAGCAACAAC 240  
GAGGGGCAGG AGCAGCGTGG TGGTGGACAG GGTCCAGGAG TCGAGGATGG CGGGGAGCCA 300  
CGGGCCAGGG CGAACACGCG CAATGTGACT GTGGCAATCC AGTACTCGTG GCTCCACGAC 360  
ATGAGGAATG TCGGGGGAGA GGGCGAGGAA CGGGACAGGG CCGGGGGGAG AACGGAGATA 420  
CGTTCTGAT GAGCTTCACG GACGTGCCCG ACTCGACGTC GAACGATCGG TTTCAGGAAG 480  
TGATCGGCAT TCGGGCCGAG TTTCGATTGA GCGCGGTGGC GCGGCGGATC AGCCTCTCTG 540  
GGGGCTCTC GAAGGAGTCC TTGAAACT CCTCTCAGG AAGCTCAGCG AGCTGGACAG 600  
CGAGCTGTGC AGTATATGCT ACGAAGACTT TGAAGACGAC ACGTCGATCG GGT 653

(2) INFORMATION FOR SEQ ID NO:150:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 668 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1057UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:150:

GATCTAGGGG TTCTTCTTGC CGCGCTACGG GCGCCCCCTG CAGCCTCGCG CTGGCTCCCC 60  
CGCGAGAGGG GATCGGCAAG GCTCCTCGCA GCGGCACACT GCGTCTATGC CTGGACCGTC 120

CGGGAGGCG GACAGCGAG GAGCAGCCC GCGATGTCTG TGTCCCCGCG GCGCTTACT 180  
 CTGGGGCTCG TGTGAATTT TCTAAAAC GTTGAAATG TACGGCTCG CTGAGCCCC 240  
 5 CGCTGTGCA TTGTACACG GAATAGCGA TCAATTGGAT GGGACGCGA GTGTACCCC 300  
 CGAAACCGTG CGCAGCGCT GCGGGCGCA GCGCTGAGT GCGCTGCGG CGCAAGCGC 360  
 ATTTGCTGTC GACTGCAGAG CTGCAGGAG TGTGAAGCG GAGGACAAG TTGCAGCTGT 420  
 10 ACGTGGCGG GTTGTGCGAG AGCGAGGAGA CGCAGAAGCG GTTGAGCGAG CAACGAAAC 480  
 ACGTGGCTGA AATACGGGA ACGTTTGGG GCGTGAAGG GGAACGACAG CGCTGCAGG 540  
 ACGGCTGGA CGGTATCAG AGCTAATGT TCGGTACCA TGAAGCTGG CAGCGGTAR 600  
 15 ACGGCGTGC CGGCGCGTT ACAACGACG GTTGTGCGG CGCGCTGCA CAAGAAATGC 660  
 GCGCTGCG 668

## (2) INFORMATION FOR SEQ ID NO:151:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 614 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG105811

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:151:

GATCTTCACA TTGCATGCA GTTCTTCTT GTTTTATGA GCACCCCTCG GCGCTTGT 60  
 GCGCTTCAAC TTGAGTTCA TCGCACTTG CTGTATAAGA CCAGCTTTCA AGTACACCAT 120  
 35 GATGTGCTG TCAACACGT GTTAAAGCA ACAGCGCTG CCATAGCGG AGTAGCTGT 180  
 CTTACTCAA TTGATACAT GCTTGTGCG GAATTGTCC GACCGCTCT TGAAGTTAA 240  
 CTGTGGAGA CCATGGGCA ATTGGCACT GTTATGTGAC TTGCAGGCG CCGTAGTGC 300  
 40 AAATGATTG CATAACTCT TCTGTAAAG CATCTGTG ACCTTCTCT GCGATGGCTG 360  
 TGCTGCTGC TGTGGGGTG CGGGGCGCG GACTGAACC GCAGAAAGTT CGGCTCGCG 420  
 TGTGGGCTG CTGCGCTGG GCGCTGGGT CTTCCGAGG GATGCTGAG GAGCGAGGT 480  
 45 TTTCGGGCT CAGGTTAGT TCCATTGGT AGCGGNTAA TGAGAGTTA TCGCACCTC 540  
 NAAGTAGGT TCCCGTTCC GNAGGGCCA GGNAAATCAN TNGCGGCGA AACCGTNAAC 600  
 CNCCCCNCC CNGC 614

## (2) INFORMATION FOR SEQ ID NO:152:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 634 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1058I2

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:152:

```

AAGCTTGCAT GCTGCAGGT CGACTCTAGA GGATCTTCCA AAGTATGGCT TGGTAGTGTG      60
GTGATGGTGA TGTGCAGTTT CAATTGCTTT GTTAGTTAGT GTATCACATT CTCTGGCTT      120
TGGCGGATTA GAGTGTGGG CCTCATGGAT GGGGATCTCC GGTGTATACA CGTATATTTA      180
TTCTCTTCGC CCAAGTGGG GAGTACAATT TTCTCTAGC TGGACCTATT TGGTTGTAT      240
TTCAGTAGTG AAATAAACT ATCAATTAAG TACAGCTTTC GTATGACTCT GCCACAGGAT      300
GAGAGCAGAC ACTCTGCAA GTACCGGATT TCAAATAAAT GTTTAGGAAT AAAATCAAAG      360
GGTACAATT ACATAATTAT AAAATGCTCT CGTAGCTATG TCTTTCGGGT CTTTTTTTTA      420
TCTTAAGTG AACATCGAGT CTGTCTCTC TTAGGTGTTT AGATGACAAG CTTACATGCC      480
TGCNGNNGNN AAACAGTTTG TCGAATCCCT CGGATCCTCN CCANGTAGNA AGGNANTACG      540
NNCAGCAGAG TCATTACCNC NACCCACCG CTGCCANCC NANTTNCNTN GGNNGNAGNG      600
GGNNGGNGNT TGNACCNANN TTGNNOCNT NGCC      634

```

(2) INFORMATION FOR SEQ ID NO:153:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 475 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1058RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:153:

```

GATCATCTTT GAGAATGCTC ATAGTTATGG TTTAACGGTT CTTCAAACGG AAGATATCT      60
TCAATTACAG AGTAGTTTGG AGAGAGAACA GGTACGTCC TACAACATTG CCGAGAAAGC      120
AACTACAATT GGCTACGTTG CACTTCCAAG AACCGAGTAC GATGAACCTG TAGCTTCGCA      180
AGCTTCTACG AAAGAACAGA ATTTTGAAGT ATACGCGCGG GAAAATGGCA AAGTCATAGT      240
GGATAAATCT GAGTATCAGC ATTTGAAGAT CAAAGCTATC CCAGTGATTT CACCATTGCC      300
TCAAATGAGC AAAGAGCAGA TGGTTGAAAA GCGCAAGGAA CTTGGAATGG TAGCTTTGCT      360
CCATTGACGA GTATGAGAAG TTAAAGAGCC CTATTTCCCG ATAACGCTTT GGATTGCAAC      420
AOCGAAGGAC CCGGAAAGG TTGGTCTCTT AAAGGAGGAG TACAACCCCT TATTG      475

```

## (2) INFORMATION FOR SEQ ID NO:154:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 476 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1058UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:154:

```

GATCTGGCGC CCGACAGCC TGCCCAGGTG CGCCTGCATC CGCCGCTCCT GGTGCGGCTC   60
GTGAGGCCCC AGCTCCTGCC GGAAGCTAGC CTTCCAGCTC ATGTACGACT CATGGGTTAC   120
CTTGCTTCGG CGGAATTCTT TCTGCTCTTC GAGCTGGGCT TCGCGTAGCT GCGGCTCGTG   180
CTCTTTCTCT CGGGGCTCAA GCTCTTCTG AAACCAGGAC TCCGGCTCCT CTTTATTGA   240
CGAGATCAGC GCAAACACA TGTGATTCC CAGCAGGATG TCTCTCTCCA CTTGTGGCAT   300
GGACTGGCTT GGAAAGACCG TCACTCTCC CGGTCAAAT GAAATGCTTG TCCGGAATAT   360
TCTCAGTTT CGCAACAAA GGGTCCCCC GTGCTGCTCC GACTTCCIN GTTCTCAAT   420
CCGCTCTCAA CTTGCTCGGN TTGCGGGGG GAAGGTCOA NCGGCTTAA TGTAC   476

```

## (2) INFORMATION FOR SEQ ID NO:155:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 644 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1059RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:155:

```

GATCTGTTAC GCTGCAGCGC GAAACCTCCA ATGCTCTGGG CCAAGGTTGG CGGCTGGGAT   60
TCTTGGGCTC ACTGCATGCT TCGGTTTTCA AGGAACGACT GGAGAATGAA TACGGCTCGA   120
AACTCATTAT CACACAACCC ACTGTTCCAT ATGTCTGGA GACTCCGAT GGGACCCAGA   180
TAACAGTAAC AAATCCAGAT GACTTTCTTG ACCTGACACT TGGCGAACC AAGATAAAGA   240
ATTCCAGGA GCCATATGTA GAAGCTATAA TGACTCTTCC ACAGGATTAT CTCGGAAGGG   300
TTATCACTCT CTGCGACGAC AACCGTGGCA TACAGAAAGA GATAACGTAC ATTAACACCA   360
CGGGCAAGT GATGCTGAAA TATGATATCC CATTCGCACA TCTAGTAGAC GACTTTTTTG   420

```

GTAAGCTCAA GTCTGTCAAG CATGGTTATG CTTCCTTAGA CTACGAGAT GCAGGCTATA 480  
 AGCGGTCTGA CATGTCTAAG ATGGAGTTGC TTGTAAATGG AAAAGGTGTG GATGCACITG 540  
 CACAAGTGAT GCATCGCTCC CAAACCGAAC GATGGGCCAA AGAATGGGTT ANGAAGTTCA 600  
 AGCAATATGT CAAATCCGAG TTATACGAAG TGGTTATCCA GGCC 644

## (2) INFORMATION FOR SEQ ID NO:156:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 649 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1059UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:156:

GATCGTGGCG GACGTGTTTG TCGCACCGC GGACGTGCTG CTGAAGATGT CGCGGTACGA 50  
 RGAAGCCAAG GCGCGCGCGG ACGCGGCGCT GAGCTGGAG CCGGACCACTA TGAAGCTGAA 120  
 GGCGCTGCAC CTGGAGTCTG TCGCAAGTT GCGCGACTAT AACCGGACATA TCTAGTCCGC 180  
 GCGCGCGCGC CCGCGCGGCA CCACGGTAT ATATACACAG CCGGTCTCCG CGCGCCATGC 240  
 CGCGCGCGCG GACCGCAGAC ACAGGCGCGG ATCTTGGCGC GCGCGCGCGG ATGAGCTGGT 300  
 GCAACCTCT TCGCGCGTAC CCGCTAAGG AGGTAATCT CCCACCTCAG TACTATAAAA 360  
 AATTTTAAAG TTAGCCACTT TCGAGTTACA ACTCCCGCGC TGTGGGTAA CGGATCTCAA 420  
 CTGTGAAGC CCTAAGCT GCTCTACTCC TTTTCGCTA AGGCAATATC CGGCCATGTC 480  
 TTGCTCGAT ATCAATGTC CCGTTGATTC GTTTATGAT AGGTGAAGC GGAAGCAGAT 540  
 TACTGGCAG TACAATGTT CCGTGSAGAC GTTACAAAT CTGATGGGTT ACGTATCTGC 600  
 CATCCGGTGG TCGACGAAGG ACGARCTCAT TGAACAGATC CGTCTACTC 649

## (2) INFORMATION FOR SEQ ID NO:157:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 641 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1060RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:157:

GATCTGCTCA TACTGAGCG CCACTGGTC GTACTCGTA TCAGAAACAT CTGTGGTTTC 60

CTGGAAGTGC GGCACCTTGA GCGATATCTC ATTAAACTTG GTAAACAGCT CTCCCAACTG 120  
 ATGATTGACT GCACTGGTIT CCGTCAGCAG GTCTCCAGT TCGCCAGTTC TGGTGCCAC 180  
 5 TTCCGCCACG TATCCGCTGT ACAATGTATA CTGTCGTTC GCAGACCCCA GARCAGAAGC 240  
 TCGCCGCCAC TCTGGGGCCA GCAGCTCAAT TACCTGAGGT TCAATCTCTG TTTCACCGT 300  
 TGCCAACAGA GTGTCTACTT TTGGCGTAA CGAACTATCC CCAAAAAGCG GAGGCAGCTC 360  
 10 ATCGTGAGAR GARGCACCGG GATTTCGGCG TACATCTGT ATGACTGART TCTTCGGCT 420  
 CCTAAGCATG GTGCAGTTCG TGCTCAACG GCTTCTTCC TGGTCARGT CTGCAGTGGT 480  
 TGTGCTTAT GCGCAAGCAG AATACCATGT TGAGCCGGCG AAATCTCATC ACGTGATCAT 540  
 15 CATCTTGCAA CGCTCGGAR GACRGTGATG CACTGTTCGA TAGGCTTAGG GCGCAATTAT 600  
 ACGCTAGCTA GTTATATTGA TAATATGTAC ATGATGCCCT C 641

(2) INFORMATION FOR SEQ ID NO:158:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 649 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1060UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:158:

GATTTGCCG TCTTCTTGT CCAGCTGTAG GTCGGATGA GGGTACGCTT CGCTCAGSTA 60  
 35 CTCCAGCCGC AGCTGGCCGC TCTCCATGSA CGCTCCAGG ATCGAAGGCG CCGGCACAGC 120  
 CTGGAGGGG ACGGGGGCT GCAGAGGGG CATCTCTGT CGCTCTGGT GCATCTGCAG 180  
 CGCCGCAGCG CTCGGCTCCA GCGCCGGTTC GAAGTACTTC ACATTGGTCA GCGCCGACTT 240  
 40 GTACAGATTC AGGATGCAGC CTTTGAGCTG CGCACGGTGC AACCGGTACG CAGTCGGGAC 300  
 ATACTGGTAC CGCTCGTCC CCGCTCCCGT GAAGTGGGGC CGCTCCGATC CGATCGAAGA 360  
 CAGTGACGCT GTTGGCTGGT GGCTGTATCG CCGCTCCGC GCGGGCGCTG CCGCTCGGC 420  
 45 CTGTTCACC CACCCGAGCC GAAACACAGT CCGCTCGTAC GTCTCCCGT TCAGCCCGCC 480  
 TCCAGTGC ACCGGGAGC CCGCCGGCTG CGARCAAGGC GACACCTGCT CCTCGCAGG 540  
 CGCACCCGCC TTCAATGCTT CACATGTGAG CGTCCGCTTG TGCGCTTGC CCGTNGCAC 600  
 50 CTGTTAACTG CATCCGGCTC TGTTGGCTGC TGCTGCTTGC TGCTTGCTT 649

(2) INFORMATION FOR SEQ ID NO:159:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 570 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1061RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:159:

GATCTGCTTT TGTAAGTATT CATCAGCTAA ATACCGTAAA GCTGGTTTGA ACGGAGGTCC	60
TGCTTGTGTC TCATATATTA TAGAAGTATC AATGACGAGG GGATGCCGCA TTTTCAAGAC	120
15 GTTCAAGTCC GCCTGCAATG AATGGCGGAT AAGCACATCT GTTGGCTTGA TCATCCGCAA	180
GAGATCTGTG TGGACGTCTT GCAAAGTGGT GGTCAACCCG ACCAACTTCT CCTCTGTAAT	240
ACCGCTGTAC TTCTGCAAGT AGTCCACAAT GGGCTCATCT GGCTTGACAA ACTTGTCATA	300
20 AACTAAGTTA CAATCAAAAT CGACGAGCT CACACCGGTC AACACGTATC CGTTTITAGA	360
AAGGCACATC TCACAGTCCA TGGCAAACGT GTGAGAACCG TCGTGTGGA AACTGACAGT	420
GTCCACCCAC CCACTGCACT TCTCTTATT CTGATACTTT AGCAACAAAG CCTTTTGGGT	480
25 ACTCTCCGA TAAGCCAGGT GTGTITAGAT GGATGGGGTA CTCATTATGC AATAAGTCAA	540
CAACGGGCAT AGCAAATCAA GCAAGTGATT	570

(2) INFORMATION FOR SEQ ID NO:160:

30 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 522 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1062RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:160:

GATCTCGGTG ACGTGGCGCT GGTATGCGTT CATCCAGTCC CGTTCAACA AGAAGTTTCT	60
45 GTTAACGTCC AAGTTACAGC TGGTGAAGGA ATCAACCTCT GGGCCACCG CCTTGATCAC	120
CTCTGGTGTG TTCAAATACT CTTCACTGTA CTTCACTGTA TGGTAGCAGA GCTGGCCCTC	180
AACTCTCTTG CGAAGTGGT AGACGTTCTT ACCAGTTCTC TGGAACGGCG TCAACTGGTT	240
50 GCCATTACAG TACAGAGAGG CTGGAACACA CGACCAACG TTCTGCAGGG TGTAGCATGT	300
GCGGATCAAA CGCAAGCACC GTGGCAAGGT CTGGTTCATT GCGAGCATT GCTCTGGGOC	360
AAGAATGGCG GGTTCGCGCG CACCACCGCA GGCCTACCG TGTAGTAGG GGTACTGTGT	420
55 CAATGGGTCT GTCAACCGGT TCCCAATTAG CACAGAGCTC AACTTAAACG AGCGCTCTCT	480

GCCTGGGTGC GACAAGATCT CGGCAGCAAT AGCAGGAATG TG

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(2) INFORMATION FOR SEQ ID NO:161:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 633 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1062UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:161:

GATCCTGGTT GTATCATAGA GAATGAACAT ATTGATAAAA AAATGCTACT GTGTACAGTA 60  
 ATGTCTGAAC ACCAACATGC TCTTTTCTTG TATTAAATGA TGGGATAACG AACTCTTGGA 120  
 AGAATCCTGG GCGGAAATAG TAGACATGTT TAGAGAGATT TTTGTAATGG CTAGAGTGGG 180  
 TTTTGATGCC CGAAAAAGAA GTGCCAACAT TTAATTTCGA AGGTTTATCA GGTAGGTCAG 240  
 GGAATATACT ATCCTCGTAT AAACCCCTGA TTGTACTTCC AAGGAGCTCC AAGTCGTCTG 300  
 AGTAGGGGA TGGTTCATCT TTAGTGTGAG CATGACGAG GACCTCACAT GTGATTCCCTG 360  
 AGTCAATGC ATCTATGACC TCTCCATTC AATCAAGCC CATGGGTCCA ACCTCCTTGA 420  
 GAGCGCCCTT GATAAGCTCA GTACGCAGCT CGACCGAAGT ATCCAACGTA AGTGACTCCT 480  
 TTAATTTCGA TTGCAGATAT TCGGGCCCA CTCATGTAT AGATCCCCCA TGAATAAAGG 540  
 AGAATTGCTG CACAGTAGTA AAGCAAATC CCGGTAATT AGTTGGTTGG CTTCCTTAGGA 500  
 AGTCAGTGAA CCGATTATTT GGTCTCTGAT CCT 560

(2) INFORMATION FOR SEQ ID NO:162:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 505 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1063RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:162:

GATGCACTTG ACCGTCACCC GGTACTGGTC GTACTTGTGC ATGAAGTGGT CCTGTAGTTC 60  
 CCCCAGTTCG TAGATGAGCA CGCCAGTTT GTGGTTCAG TCGGACACAT CGTGTGCTTT 120  
 GTCCATGCCC CACATGACA GCTGCGCGC AGCGCGCGC CGTCATTGG CCACCACTTC 180  
 CAGGCGACGT AGCACCCCTT TTTCGTTCTT CACGAACGAA GACAGCTTCC GTGCCAACTC 240



GGGGCCAAAG TTTCCTCGCTG CATTCTTGGG GAACGAGGAA GCAATCCCGG CACGCCCAAA 300  
 GAACTTGGAA CGTGTGGAAG AGGGTGGGG AGGGGGTGAC TGGAGGTCTG ACGCAGTAGG 360  
 5 CGCCTTCTGG TTTCCTCAAAG AGTATGTTCT GTGCATATTC TCGTGTCTAG ACTGGTCTGG 420  
 CAGTCGGTAT TTGTAGGTCC GATAAGATTC TCAGACGACA GCAAGTAAAG TACAACGGTG 480  
 10 GTCGGTGCCC CTCCAAGCTC TTTTT 505

## (2) INFORMATION FOR SEQ ID NO:163:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 631 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1063UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:163:

25 GATCTTAATA GCAATAGTCG ACTACAGGAA ACACAAGCTT TCATAATGTC GAAATCTTTA 60  
 TCATGGGATA CACTAGACTA TACTCTACAA CCAATGATTC GTACTGCTGT TGATGCCATG 120  
 GGTTATGAGA CCAATGACACC TGTACAGGCA TCGACGATCC CGCTATTTGC CAGAAACAAA 180  
 30 GATGIGGTTG TAGAATCTGT GACCGGTTG GGGAGACCG TGGCATTTGT CATACTGTA 240  
 TTGGAGAGAG TGATACAGGA TGATGCCAAT AGTTCAAAGC TCAAAAAAGG CCACTTCCAC 300  
 ACCATAATAA TCTCCCTAC GCGGGAGCTT GCATCACAGA TACAGGGCGT GATTGAAGCG 360  
 35 TTCTGACAT ACTATCCAGA TGGAGAATAT CCTATAAAAT CACAGTTGCT TATCGGTAGC 420  
 AATACCACTA GTGTACAGA TGATGTTGCA GCGTTTTTGG AACATAGACC GCAAATTTTA 480  
 GTTGGTACGC CTGGAAGGCT ATTAGACTTT CTTAAGATGC CAAACATCAA GACGTCTTCA 540  
 40 TGTGGCCGAG CTATCTTGA TGAGGCCGAC AAGTATTGGA TATGAATTTG AGAAGGATGT 600  
 CCAGACAATA CTGGAGATGC TACCAAGCCA A 631

## (2) INFORMATION FOR SEQ ID NO:164:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 626 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG0164I1

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:164:

GCAGGAANTG GGTAGCCAAG AACCCGCAAA GACCTTCCCG AGCTACAACC GCCTCATCTC 60  
 5 GCAGGTGTTT GGCATCTGGG TCAGCATGGC CGCTGTATC GGGTACGGCT GGGGAATTCA 120  
 ATTTCACTAT CACATCGCTA TGTGCTATT CTTTCTTTT CTAATGGCGT TGGTATGAC 180  
 CTGTGCTCT AACTCCACCA TGACCTTCTT TACGGAGTCC AACCCAAAAA GAGCTGCTCG 240  
 10 TACCATTGCC GTAAGCAACA GCTTCCGCAA TATCGCTGCC GCCATCAGCT CCGCCATTAC 300  
 TTTCAAACTA TGCAACGCCA TGGGCGTTGG ATGGTGTINT ACAGGCTTGG GTCTAATCGA 360  
 CTGTCTATCC ATGTTGAGGG TCTATTACTT GATCCGTAAT GGGCGGAGA TTACAAGGAT 420  
 15 AGCTGCTGAG CTATGATATC ATAACACATC CGCATTTTTA CGGATTTAGA TAACCAAAAC 480  
 AGCATANTTA GCATGTTTAG AATCTATCAG AAGAACCTCC CTGTGTCCTT TAATGATTAA 540  
 TTTGAACAGT CATTGATTCC GTCTTTGAC CAAGAAGTTA GCAAGTGATA TCCGCTGACC 600  
 20 CCGAAACGGC GTGCTTGTG TTTCAC 626

## (2) INFORMATION FOR SEQ ID NO:165:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 394 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1064I2

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:165:

AAAAATCATT TTTATCACCA CTCAAGATGC AGTCTGATTG AAGTGTAAG CTGCAGTAGA 60  
 AGAGACAAGT AAGCCATCAT GAAGGTATGT TATAGGTGCT AAGTTCCGA TACNAGCACA 120  
 40 GTGGGCATGC TAGGGCTGCA GAGACAGGC ATGGGCGTGT TACGATAGCC GGAGACTCCG 180  
 ATTGGCGGCG TAGCGGAGG TTAGCGCGCG GTTGAAACGA TAATGGGTGC CAGGACGCGG 240  
 GCCACGCGCG CACTGATGCT TGTATTGTTT GGCATGAATC TGATACTAAC ATTCTGTAG 300  
 45 TTGAACATTT CTTACCCAGT TAATGGTACG CNAAGACCA TTGAGGTGCA TGACGAACAC 360  
 CGTGTCCGTG TCTTCTACGA CAAGAGAATT GCC 394

## (2) INFORMATION FOR SEQ ID NO:166:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 559 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

55 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1064RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:166:

TAGTGGATCC AGCATCCCGT CTOGACCAGT CCTGAGTTCC GCGGGCTCTA TCCTAGACCG 60  
 CCAAAGCCCA GCTTGAACAC GTACTGGGAG ATCGTGAAGG AACCAAACCT CACTATATGT 120  
 TCCCTGAGCA CAGCGCTAAT GTTCGCCACC TACTATGGGT TCAGCGTCAC GTTCGCCCAC 180  
 TACTTGAAAC TTGACTATGG CTTCAGTAAC CTTCGGATGG GCGCGTGCTA TGCTGTCCA 240  
 GCGGTGGGCC TAATGATGGG CTCCTCTCTG GCGGTGACA TTTCGGACCG CTTCGCCAGG 300  
 AAGTGGGTAG CCAAGAACC CGGTAAGACC TTCCCGAGCT ACAACCGGCT CATCTGCAG 360  
 GTGTTTGGCA TCTGGTCAG CATGGCCGCG TGTATCGGT ACGGCTGGGG AATTCAATTT 420  
 CACTATCACA TGCTATCGC GCTATTCTTT TCTTCTTAA TGCGTTGGG TATGACCTGG 480  
 TGCTCTAAT CCACCATGAC CTTCCTTAGG GAGTCCAACC CAAAAGAGC TGCCGGTACC 540  
 ATTGGTAAAG CAACAGCTT 559

25

(2) INFORMATION FOR SEQ ID NO:167:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 611 base pairs

(B) TYPE: nucleic acid

(C) STRANDELNESS: single

(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1064UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:167:

GATCTGTCTT CCGCCGCTA TGGGCCCTCC CTGCGGCGAG AGGGAGATCG TCCTGGTGG 60  
 CCTAGGCTAG GCACGGCCCT AGGCGGAGCT TGTCTGCGG AGGCGGGGCC GCCTGAGCCC 120  
 CGCTGGCGAG GCGGCCAGCC CGTGAGACGG TAGCGGCCCG CCTAATGCTT CCTACGCAGC 180  
 GACCGGCGAG CGGACCTCCA CGTTAGTAAA AAATCATTTT TATCACCCT CAAGATGCAG 240  
 TCTGATTGAA GTGTAAAGCT GCAGTAGAAG AGACAAGTAA GGCATCATGA AGGTATTTTA 300  
 TAGGTGCTAA GTTCCCGATA CAAAGCACAG GTGGGCATTC TAGGGCTCCA GAGACAGGCC 360  
 ATGGGCGTTT TACGGATAGC CCGGAGACTC OCCATTGGGC GGGCTTAGCG GGAGGGTTAG 420  
 CCGGNGTTT GGAAACGAAT AATGGGNTGC CAGACCGCG GCCACGGNG GACTGATGCT 480  
 TGTTTTGTIT TGGGAATNAA TCTTNATACT AACAATCCCN GTNGGNGGA CAATTCTTAC 540  
 CCNGTTAAT NGGTACGCAA AAGACCATGN AGGTGGGNTG ANGACAACCN NNTCCNNNT 600  
 TTCTTNCAN A 611

55

## (2) INFORMATION FOR SEQ ID NO:168:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 615 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1065RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:168:

GATCTGTAGT TTGGCAGTCC CTGATGCGGT CCCCCAGAGC AGGCAGCCCG GGCACGGGTC 60  
 TCGGCAAGGC AGGGGTGTGT TCACCGGGA GCACTCTCT GGCAGGCAG TTCCACGGCT 120  
 CCTGAACGAG CGCGGGCATG ATGGGGCCCA GAATGCTGCG ATAGGCATCC AGAATGTGGA 180  
 ACAGGGTGTG CTTTATGGCC AGACGCTCT TATTATGTGG GGGTTCCATG TAAAGCGTGT 240  
 CCTTCGAAGC ATCAAAGTAG AAGGACAGGT CGTTGCTCAT GTGCTACAGA ACAAAGACTG 300  
 ATGACATTGG AGTAGGCTCG GGATTCCGCA CAGACCCGTA CACTTGGGGG GCAAAATTC 360  
 TTGTCTGTGC GAGGGNTTTT CCNTCANIC CCNCGGAGG TGGGGGCAGN CTTCCCGNG 420  
 GCAAAAAGG CTNTTCCCA CCNAGATNAA CCGCTGGGAA ANCCGAAGG TGNCANNAT 480  
 TNAGNGAAG TNCCCTNACC NTCCACCA ATCGAAAAA TTGGGGANNA ANGCCCCANC 540  
 CCAACNCCA AANTTTCTT GGAAAAAAA AGGGNGGCC CACCCNGNG GANTNANTTT 600  
 TATCCCCC NATCC 615

## (2) INFORMATION FOR SEQ ID NO:169:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1065UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:169:

GATCTCTTCC CTTCGATCAT CCTCAGTTG GGTCTGAGT CCATCGATGC GTTGACGCAG 60  
 TTGGCCACAC AGTTGCAGAA CGCACAGGCT GCAGCTCCAG CAACCGAGGG CCATGAGGCA 120  
 GCGGAGAAGA AGGACAACGA CATCCAGAG TTGATTGAGG GCCAGTCTTT CGACCGGAT 180  
 GTTGAATAAG TGCGCTGTGC GAGGACTGTG TTCTCGCCGC CCATCTCAGA ATTGTCTAT 240

TTCTGCAGGG AATATACATA TATTGAGTGC ACATATGGAT ATTATGTATA TATATGTACA 300  
 TACACTATAC CCGCCCCGTC TTAGTGGGAC CACATAAACC TACGGGTGGG CCGCCCTATA 360  
 5 TCGTTTTTACA ATAAACGGGC CGNCTTGGG GGNVINCCTC GANAATCTCN TTGGGGGGCC 420  
 CINCNNCNT TANNAGGTC TTCTNCCGGG TNGGAAGTNA AAAAGCINNIN GTTCNGTIGN 480  
 NAGNGTCCCC GGGGGAANC CINCCCCGNG GNGGATTTTC NCCAAACCG NAGANACNN 540  
 10 CNITGCNCCA AGTTGCCCCG GCGAGAAAAA AANCCNATCN NGAAGNAAAA TTGCCCCCTG 600  
 CCGN 604

## (2) INFORMATION FOR SEQ ID NO:170:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 653 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1066RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:170:

GATCTGAGG CCTCACTAAG CCATTCATC GGTACTAGG ACGGGGGTG TGTACAAAGG 60  
 GCAGGGAGGT AATCAAGCA AGCTGATGAC TTGGGCTTAC TAGGAATTCC TCGTTGAAGA 120  
 30 GCAATAATTG CAATGCTCTA TCCCCAGCAC GACGGAGTTT CACAAGATTA CCCAGACCTC 180  
 TGGGCAAGG TTATACTGCG TGCTCCGTC AGTGTAGCGC GGTGCGGCC CAGAACSTCT 240  
 AAGGGCATCA CAGACCTGTT ATTGCTTCAA ACTTCCATCG GCTTGAACCC GATAGTCCCT 300  
 35 CTAAGAAGTG CGCAACCAGC AAATGCTAGC AGCACTATTT AGTAGGTAA GGTCTGTTT 360  
 GTTATCGCAA TTAAGCAGAC AAATCACTCC ACCAACTAAG AACGGCCATG CACCACCACC 420  
 CACAAAATCA AGAAGAGCT CTCAATCTGT CAATCCTTAT TGTGCTGGA CCGGTGAGT 480  
 40 TTCCCGTGT TGAGTCAAT TAAGCCGAG GCTCCACTCC TGTGGTGGC CTTCGGTCAA 540  
 TTCTTTAAG TTTCAGCCTT GCGAACATAC TCCCCCAGA ACCCAAGAC TTIGATTTCT 600  
 45 CGTAAGGTGC CGAGTGGGTC ATAAGAAAAC ACCACCCGAT CCTAATCGG CAT 653

## (2) INFORMATION FOR SEQ ID NO:171:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 669 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1066UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:171:

5 GATCTGGAGG ACCTATATAT ACCATTTCGC TGCACCTTTC TTTTGTGGCC TGATGTTTAA 60  
 TAAGTAGAAG ATCTCTGATT ATTATGCGGA GGTGTTTAAA GTCCCATGCG AGCACACTGT 120  
 TTGCAATGAT GGCATCGCC CACCAGACCA GTCAGAAGTA GATATCTGAA TTGCATGTGA 180  
 10 OCCATACTAG GGTGACCTGT GTTGGCGGCC AGCTTGCCAG AGGAGGAAAA AAAAAAGATT 240  
 GCAGCACCTG AGTTTCGGGT ATGGTCACCC ACTACACTAC TCGGTCAGGC TCTTACCAGC 300  
 TTAAGTACAG TTGATCGGAC GGGAAACGGT GCTTTCTGGT AGATATGGCC GCAACCGAAA 360  
 15 TATATAGCCT AGAGCAGACA TGATATCAGA TGGTGGATGC ACGTGAGGGC GTAGACATGT 420  
 AATAACGATA TCGAGTACAT TTGGTGGCAG ATGGCTGGGG CTATGGCGCA GATGTGTGGT 480  
 AATTGGCACA TCGGGGTAAAG TCACGGGGTA AGAAGAGTTT GTGGGCATTG GAGTGCCATT 540  
 20 CCGTACCGAA TGTCACGTAG TGATCTGAAA AGTGATATGC TATGTGAAGT GCAAAGTATG 600  
 GGAAGTCTGG CTGGGCTTAR GAAGAAGATG TCRACCTGCA GCAACCGAA CGTCCGACCA 660  
 ATGCTTTGA 669

## (2) INFORMATION FOR SEQ ID NO:172:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 652 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1067RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:172:

40 GATCCCTTAA CTTTGTTTCT TGATTAAATGA AAAGTTCCTT GGCAAATGCT TTGGCAGTAG 60  
 TTAGTCTTCA ATAAATCCAA GAATTTCACC TCTGACAATT GAATACTGAT GCCCCGACC 120  
 GTCCCTATTA ATCATTACGA TGGTCTTAGA AACCAACAAA ATAGAACCAA ACGTCTTATT 180  
 45 CCATTATTC ATGCTAATAT ATTGAGCTT GCGCTGCTT TGAACACTCT AATTTTTTCA 240  
 AAGTAAAAGT CCTGGTTCGC CTAGAGTACA AGTACCTTAG GTTAGCCAGA AGGAAAGGTT 300  
 CGGTGGATC CCGTACAGA AGAAATGGG ACGGCGCAAC CAACCCAAA GTTCAACTAC 360  
 50 GAGCTTTTAA ACTGCAACAA CTTAATATA CGCTATTGGA GCTGGAATTA CCGCGGCTGC 420  
 TGGCACCAGA CTTGCGCTCC AATTGTTCTT CGTTAAGGTA TTTACATTGT ACTCATTOCA 480  
 ATTACAAGAC CCGTATGGG CCTGTATCGT TATTTATTGT CACTACCTCC CTGAATTAGG 540  
 55 ATTGGGTAAT TTGCGCGCCT GCTGCTTCC TTGGATGTGG TAGCGGTTTC TCAGGCTCCC 600

TCTCCGGAAT CGAACCITAT TCCCGTTAC CCGTTGAAAC CATGCTAGGC CA

652

(2) INFORMATION FOR SEQ ID NO:173:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 669 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1067UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:173:

GATCGGGTAG TGAGGGCCIT GGTGAGAGC GCGAAGTGTG CTGTGTGTCT GTCTCGGGG	60
GCTTGCTCTT GGGGACGGAC TGCTTGGTIG CTCTGTGTA GACGGCTTIG GTAGACCATC	120
TCTGTGTGTC GCTTGCTACA ATTAAGATC AACTTAGAAC TGTTACGGAC AAGGGGAATC	180
TGACTGTCTA ATTAAACAT AGCATTGCGA TGGTCAGAAA GTGATGTGA CGCAATGTGA	240
TTTCTGCCCA GTGCTGTGAA TGTCAAAGTG AAGAAATTCA ACCAAGCGCG GGTAAACGGC	300
GGGAGTAACT ATGACTCTCT TAAGGTAGCC AAATGCCTCG TCATCTAATT AGTGACGGCG	360
ATGAATGGAT TAACGAGATT CCCACTGTCC CTATCTACTA TCTAGCGAAA CCACAGCCAA	420
CGGAACGGGC TTGGCAGAAT CAGCGGGGAA AGAAGACCTG TTGAGCTTGA CTCTAGTTTG	480
ACATTGTGAA GAGACATAGA AGGTGTAGAA TAAGTGGGAG CTTCGGCGCC AGTGAAATAC	540
CACTACCTTT ATAGTTTCTT TACTTATTCA ATTAAGGGGA GCTGGAATTG ATTTCCACC	600
TTCTAGCATT TAAAGTCTA TACGGGCTGA TCCGGGTGA ARACATTGTC AGGTGGGGAG	660
TTTGCTCG	669

(2) INFORMATION FOR SEQ ID NO:174:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 596 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1068RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:174:

GATCACCNC TNNCCATTC AATCGGTACN ACTCGACGGC CGGNTGTNN AANCGNCCG	60
GACCTAATCA ACGANAGCTG ATGACTAGAC GCTTACTAGG AATNGTTCCT TCAAGANCA	120

TGATTTGCTC TGTNCTATC CCCAGTCATT ACNNGCTANC AGACATGATC CTCCATGATC 180  
 TGTGGGTGCT GTGTGGTATN CCGCAGGACN CCGNCTGTGT ACCGGGGGTG CCGCCACAGAA 240  
 5 NNTCTANGGG CCTCCAGAC NTGTTATNGC CTCTAACTTN CATCGGNTCN ANACCGANAN 300  
 TCTTCTAAG ANGTGGGCNA CCAGCANNTG CNNDGNGNC TATTTACTAG GTTAAGGTCT 360  
 CGTTGGTAT CNCTTANT CAGACAAATC ACTCCANCN CTAANAACGG CNNTGCCCCN 420  
 10 NNNNGGAA NNTNNGAAA CANTCTCAT CTGTCAATCC TTATCGTGTG TGGACCGCT 480  
 GAGTTTCCCG TGTGAATCT AANTAACCG CAGGCTONAC TCTTNNGGT GCTTCCGTC 540  
 NATTCCTTA AGTTTCAACC CTGGACATA NTCCCCAGA ACTCANAGAC TMTGAT 596  
 15

## (2) INFORMATION FOR SEQ ID NO:175:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 641 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1068UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:175:

30 GATCTGGAGG ACCTATATAT ACCATTTCGC TGCACCTTTC TTTTGTGTC TGATGTTTTA 60  
 TAAGTAGACG ATCTCTGATT ATTATCGCGA GGTGGTTAAA GTCCCATGGG AGCACACTGT 120  
 TTGCAATGAT GGGCATGGC CACCAGACCA GTCAGAAGTA GATATCTGAA TTGCATGTGA 180  
 35 GGCATACTAG GGTGACCTGT GTTGGGGGCC AGCTTGCAGG AGGAGGAAAA AAAAAAGATT 240  
 GCAGCACCTG AGTTTCCGT ATGGTCACCC ACTACACTAC TGGTTCAGGC TCTTACCAGC 300  
 TTAAGTACAG TTGATCGGAC GGGAAACGGT GCTTCTGCT AGATATGGCC GCAACCGAAA 360  
 40 TATATAGCCT AGAGCAGACA TGATATCAGA TGGTGGATGC ACGTGAGGGC GTAGACATGT 420  
 AATAACGATA TCGAGTACAT TTGGTGCCAG ATGGCTGGGG CTATGGGCA GATGTGTGGT 480  
 AGTTGGCACA TCGGGGTAAG TCACGGGGTA RGAAGARGTT TGTGGGCATT GGAGTCCCAT 540  
 45 TCGTACCGA ATGTACGTA GTGATCTGAA AAGTGATATG CTATGTGAAG TGCAAAGTAT 600  
 GGAAGTCTG CTTGGGGTTA AGAAGARGAT GTCACTGCAA G 641

## (2) INFORMATION FOR SEQ ID NO:176:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 654 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)



## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1069RP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:176:

GATCGACCCC GGTCCCGCTC GCATCAGCGA GCTGCCCGTG CGATCAGCA GCGCGGTCCC 60  
 TAGCGACCCG CCGATGGCTA TCATCGACAC ATGACGTGCC TGCAGGTCTT TCTTGAGCCG 120  
 GATGCCCTCG TGCTTGCCAT CGTAGTTCCA GTCTACGGAC TCGCCCTCTT GGTCTGTGCT 180  
 GCTGTGGGTA TGCCCGAGAC CGCGGCCCTC ACCAGCGCGG GCCAGCTTGG GGCCTTTCAA 240  
 CTCGTCCAGC GTGGACGCT CTGATGCTG TCGGAACCTT TCTTCGGCCA TAAGTGGCGA 300  
 GCTGTATCT ATGCTACTCA AGCTCCCGCC GTATAGCTT GCTATATATA CTTACGCTGC 360  
 GACGCCCTAT TCCGGACACA GCTATATATT GCGCCGCGGT CTGGCGCGCT GCTTGGGGAG 420  
 CCGACTGACC CCACCTGAT AGTGGCGTTG CACTTCTGCT GGGCGCGCTC AGCGCGTTCA 480  
 GCGTCCGACT GTGACATGG GCTGGCGGAG CGCGATTAA CACCGACTG GGTGCGATGC 540  
 CGCACTAAAC CTCCCTCGC GCGCGAGGGC GCGCTTATCG CCTCGGTGAT GACGTACGTA 600  
 TGTATTACAA AGATCCGGAG AMCTGTCCA GCTCTCTAG TTGCGATAAG AGGC 654

## (2) INFORMATION FOR SEQ ID NO:177:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 708 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1069UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:177:

GATCTTTCTG CCTTATCAG GGATGGCACC ACCGGTCTTC ACCTCGTTTG ACTTGTAGCC 60  
 ACAGTGCTCG CAGACCGTGG ACATGATGAT GACCTCTTTG AAGTGTGGGA TGTTGACCGG 120  
 CTTCATATGC GTGTACATG GGTGAACACA TGATGGGCAC GTGGCAGTGA AGGTCTGCAC 180  
 CTCGTGTGCG AAGTTCTCGA TATCCGTAGC GTCAGATAAG AGACCGGCTT GTGCCGCTTG 240  
 CGATTGTGTT CGCTCGCGCT GCGACAGCTC CGCGCGCTTC TCTTGACGCC GTTCTTCCAA 300  
 TTGGTCGGCG GTAATGATGC CCACCTGGAC GTTTTGTCTA TCTGAAGCCA GGTACTCGGT 360  
 TTTGGACCAT TTTGGCGCAG CTTGCGCTGG CTTGTATTTC ATCCAGGAAT TGCCAGCAGG 420  
 GTCGTCCAGC GTAAAGTCA GCGGTAGAGT GCGCGGCTCG CAGCAGCGG CAGCGCGGAC 480  
 CTTGGCAATG AACTCGGCAA TCTGATCGTA CAGGTCTCTG TCCACTTCTT TCCGCGCGGC 540  
 CTGGTCGGCG TCCAAGTCTT CGATCATCTC GGTGAGCAGG CCTCCACAG TCGTCAGCTG 600

GGCCGCGCTTG GGAAGAATCT CCAGGTCCAA TTCAACGAAG CGGGAAGCCG CAGTTTCGGC 660  
 CTGTATGACT GCGTGTCAAA ATCGCCCTTC TCTCAACCT TCAGCTGA 708

(2) INFORMATION FOR SEQ ID NO:178:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1070RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:178:

GATCCCGTAC ACGAAGAAAA TCGGACGGGC CAACCAAAAC CAAAGTTCAA CTACGAGCTT 60  
 TTAACTGCA ACAACTTTAA TATAGCTTAT TGGAGCTGGA ATTACCGCGG CTCTGGCAC 120  
 CAGACTTCCC CTCCAATTGT TCTCTGTAA GGTATTTACA TTGTACTCAT TCCAATTACA 180  
 AGACCCGTAT GGGCCCTGTA TGTATTTTA TTGTACTAC CTCCCTGAAT TAGGWTGGG 240  
 TAATTTGGGC GCGTCTGGC TTCTTTGGAT GTGGTAGCGG TTCTCAGGC TCCCTCTCG 300  
 GAATCGAACC CTATTTCGCC GTTACCGGTT GAAACCATGG TAGGCCACTA TCTTACCATC 360  
 GAAAGTTGAT AGGCGAGAAA TTGAATGAA CCATCGCCAG CACAAGGCA TCGCATGCA 420  
 AAAGTTATTA TGAATCATCA AAGAGTCGA AGACATTGAT TTTTATCTA ATAAATACAT 480  
 CTCTTCCAAA AGGTGAGAT TTAAAGCATG TATTAGCTCT AGAATTACCA CAGATATCCA 540  
 TGTAGTAAAG GAACTATCAA ATAAACGATA ACTGATTTAA TGAGCATTC GCAGTTTCAC 600  
 TGTATAAATT GCTTACTT AGACATGCAT GCTTAATCT TTGAGACAAG CATATGACTA 660  
 CTGGCAGGAT CAACGAGATA ACTATCTTAA AGAACAACCC GAA 703

(2) INFORMATION FOR SEQ ID NO:179:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 675 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1070UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:179:

GATCCTTTAG TTCTUGGAG TTGAGGCTA GAGTGCCAG AAAAGTTACC ACAGGATAA 60

CTGGCTTGTC GCAGTCAAGC GTTCATAGCG ACATTGCTTT TTGATTCTTC GATGTGGGCT 120  
 CTTCTATCA TACCGAAGCA GAATTCGGTA AGCGTTGGAT TGTTCACCCA CTAATAGGGA 180  
 5 ACGTGAGCTG GGTTCAGACC GTCGTGAGAC AGGTAGTGT TACCTACTG ATGAATGTTA 240  
 TCGCAATAGT AATTGAACCT AGTACGAGAG GAACAGTTCA TTCGATAAT TGGTTTTTGC 300  
 GGCTGTCCGA CCGGGCATTG CCGCGAAGCT ACCATCGGCT GGATTATGGC TGAACGGCTC 360  
 10 TAAGTCAGAA TCCATGCTAG AACGCGATGA TTCTTTTCTT CCGACATTAT AGATGGATAC 420  
 GAATAAGGTG CTTTATAGCAT CGCTGAACCA TAGCAGCCCG GCAACTGGTG TTCANACGGA 480  
 AAGGTCTGGG CCGGTGCGG CGGATTGCAA TGTCATACTG CCGGAGAGTA AATCATTTGT 540  
 15 ACACGACTTA RATGTACAAC AGGTATGTGT AAGCAGTARA GTAGCCTTGT TGTTAAGATC 600  
 TGCTGAGATT AAGCCTTCGT TGTCTGATTT GTTTCTATT TGGAGTCTG CAGGAGCAGG 660  
 CTTTGAATA RAGTT 675

(2) INFORMATION FOR SEQ ID NO:180:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 498 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1071RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:180:

GATCTGNGGG GGAAACNCAG CATTCAACGT TGTGCAAAAA GATTTGACTG GTAACATCAC 60  
 CAAGCTTCGC AACAGACAAT TGTGGCACCC CGGTGAGTCT GCAACCCCTGC AGGAGCTTGT 120  
 GATTGCAGAG CGTGACACAG GCAGCAAGAC TGCTTCGGAA GGGCTGCTGT GGCTCACCAG 180  
 40 AGGCGTGCAA TTCACCGCGC AAGCTCTTAG AGAAACGCTA GACCATCCAG AGCTOGAATT 240  
 GTCTAAGACA TTCACAGATG CGTATTGGAA GACGTTGACG AAGCACCATG GTATGCTTGT 300  
 ACGTCCGGTT TTCAAAGCTG GCCATGAAAG CTTGCCCCTA CAGGAAGGAC TTTTTCGACG 360  
 45 AAAGTAGGCA GCGACCAAGA GAAGGTGAC ACGCAACTTT AAGCAGTGGC TGGCTGCACT 420  
 TGAAAAGATC GTAGAGATTC TGCTTCAAAT CCTTGCGGG AAACGTGCAA AGGATTTATG 480  
 AGTATTATTA TAGAAGCC 498

(2) INFORMATION FOR SEQ ID NO:181:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 625 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1071UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:181:

```

10  GATCGACAGC CTGGAAGAAG TAGCTCCAC AGCTTCAAAC ACAGCGCACA GGTCTGCATA    60
    CATCACGCTG GTGCTTGGTG CAGGCTTAAC CGGAGAACTT TGTGCGCGTG GCACGGGGCT    120
    GGCAGACTGT GGCAGCACCC CCCCCGGGCG GGGCTTATCT GCAAGCTGGG GGAGGATGTT    180
15  CTTCACTCTG GGTCTCTGTT CATGGGCTGC CGGTGCGGCT AGGCACTGGG GAGACTCTAC    240
    CTTGATTTC TTGACCTCTG CTGTTGAGGT CGCTCATCTT TGAGGCTCTT TCAGCGCAGC    300
    GAAGAATCGG ACCAATGTGG CTTGCTTCTT TGGAGTAGAC ATTGGGCTGA AGTAAACCC    360
20  TACTGACCTG CCAATAGCTT CCATTTGGT CTGGCGACAG GAGCTTCNA AGANTGACAT    420
    TNNNIGTNGN NAAGGCCNNN NNNNNCAAA GACGAACNTN NTATCAAGGN CCTNNNTNCC    480
    CCAGNNA NAAGNAANAA NNNNATNNN GGNATNNNN AAATTANGGT TNNNNNATNN    540
25  NCTTNGAAA TNNNNNGNN TNNNNATTC CNNNGGNTT TNNNTNCC NNNNNCTNN    600
    GGNTTTTTN NANNNTAAN NNCC    625

```

(2) INFORMATION FOR SEQ ID NO:182:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 491 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1072RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:182:

```

40  GAGCACTAT TATTAGGCG CCCCCACCC AGTCTGCAGC ATTGGAAGC CTTCCTAGCC    60
    TTTGTGGGAT GTCCCAAGGT ACAATTTCT CGCAGNTGAA AATACGAAAG AAGCGGCAAG    120
45  AAGTGGCTT CTTTGAATCC AAGCGCGAG CCAATGATGT CGAGCGGGC GAACATTTTA    180
    TAACAGAGCT CGATAAGGC GATAAGGCG TGGGCTGTT TTCTTGATC GCTTGATAT    240
    GCAATAGAAT GCTGGGACA GGTATCTTTG TGGTCCCGC GAAGATCTTC CAGTCGACT    300
50  GGTCACTAT ACTTTGCGT AGGTTATGG GTACTAGGAG CTTTAATTGC TCTAGCAGT    360
    CTTTATGTTT ACATGGAATT TGTAACTGC AATACCGCG AAGGTGGCG AGAAGAACTA    420
    CCTTGAGTGC ATCTCCAATG AAACCGAAGT TCTTACITA CAGTCAAGTG TACTCAGCAT    480
55  ATGATCATCT T    491

```

## (2) INFORMATION FOR SEQ ID NO:183:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 726 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1072UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:183:

GATCCGCAGC TTCGCCAAGC GCGGCTTCTC CTCGGTGTAC TCCTGTGTGT CGTGTACTC 60  
 CGGCACCATC GACGGCTCCG GCTCCTCTTC ATCCGGCGTC GGGTCTTCTT CCTCGTCCAC 120  
 CGTCTCCGGC AGAAGAGAGT CCGGCTTCGC CCGGCTCTCG TCGTGTGTGC GCTCCAGCAG 180  
 AGCGCCCGGA AGCGGCTGCT CGTCCGGGAG CGGCGCGAGG TACGGGTACT TCACCGGACC 240  
 CATCTCCCGC TCAATCCGGC GGATCAACAC CTCCCGCAGC TACCGGTCCA TGATCTGGC 300  
 ATAGTGGTAA GATTACCTAA TTCATACGTG TAGATCATCC CATGCTTACC ATGTTGAACC 360  
 GTCACCATGT AAATTTCCAA TAATCTCTA GTCCTCATT TGTAGANATT AGNACTTTC 420  
 CTTTATATTA ATNCTTTTAC TNAATAATTN ATNNANNITT TNNTTTGANC ANTTCTCCAT 480  
 ATTGTATPAA ANINATATAT AATATTATTN TCTACTAATC TAACAAATTA NNTCTNLTAT 540  
 TATATATTTA NNNANCATAT NATNATATTA AATTATTTAT AATNATNCTN TCCTCTNTA 600  
 ATNITTAAAT NNNANNINTT TNINCNNTAN CTAATNNATT TTINGATATT TINTTNTA 660  
 NNNNNNAAA AAATATNNNN TTTATCNANT ATCTTCCATT TATNAATCN NTTTTATCA 720  
 AAAAA 726

## (2) INFORMATION FOR SEQ ID NO:184:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 641 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1073RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:184:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60  
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120

ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAITCAT TTAATACTCC TCTAATTCAA 180  
 TCTTAAAATA TTCTTAATTA TTAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240  
 5 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300  
 ATCATTAAATA TAATACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCAATTAG 360  
 GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAAAATTAT CTTAACATAAT AAAAATAATT 420  
 10 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAAA TAAATAATAT 480  
 GTTATATTTA AATAGATCAA AATTTCACAA ATTTCCATTT CATTTAGTAC TACCATCACC 540  
 ATGACCAATT GTTACATCAT TTAGTTTATT AGTTTACTA TTAACTTTAG CTTTACTAT 600  
 15 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTACTATCT T 641

## (2) INFORMATION FOR SEQ ID NO:185:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 662 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1073UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:185:

GATCTTAAAT TAAAATTTTA ATTAACATTT TATAATTTAG AAATATATAA TCTAGAGATA 60  
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120  
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180  
 35 ATTTTTEATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240  
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAATAGTA TTTAATTTAA TTTTAATATT 300  
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360  
 40 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420  
 TTTCATAATA TTTATTTTTA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCTTTAA 480  
 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540  
 45 TAATAATTTA TTATCTAAAG TATATAAAT AATTAAATCN TTTTATTATA TTATTTAAAT 600  
 TATTATTAAAT TAGTAAATTA TATTTATTTA TTTTATTAAC ATAAATTTTT GNATAATAAT 660  
 AT 662

## (2) INFORMATION FOR SEQ ID NO:186:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 615 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1074RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:186:

GATCTAAATA TATATAATTT AATTATATAA GATTAAATATA AACTTTTTTA TTATAATATT	60
TAAGTATTAA ATTATTTAAA CTATTATTAT CATTATTAA TAAATTAATT ATTTGATTAT	120
TAATACTTAT TATATAATTA TTATATAATT TACTTAATTC ATCATTATTA ATATTTATAT	180
AATTATAAAA ATAATATTTA ATATGAATAC TATTTAGTCT ATGTTCAAAT TTAAATTAG	240
TTATTAATAA ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAAT AGATTATCAA	300
TAATTAATAT ATTATTTTATT AATTGTTTAT TAAATAATA TATTTTATTA TTATAAAGAT	360
TTAATTTTAT TAAATATGT AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT	420
TATGTTGATT TATATTATTT AACTTTTAT AAGAATTATT ATTAAAATTA ATTTTAACTT	480
TAACTTCTTA TTATTAAATT TTATATTATT TAATAAATTA TATTCATTTT ATTTATTTAT	540
TTATTTAATT AAATTAAAT TTTAATTAAT ATTTTATCAT TATTTAATTA ATTAATAAAA	600
TATTATAAAG AATGT	615

(2) INFORMATION FOR SEQ ID NO:187:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 663 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1074UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:187:

GATCTTGATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATTCCTAT TCCTACTAGT	60
ATTAAAGTAT TTAGTTGATT ACTAACTATT TATGGTGGTT CATTAAGATT ACTAACACCA	120
ATATTATATC TATTATCAIT TTTATTTTAA TTTACTGTAG GGGTTTAACT TGGTGTAGTA	180
TTAGCTAATC TATCATTAGA TGTAGCATTG CATGATACTT ATTATGTAGT ACTACATTTC	240
CATTATGTAT TAAGTTTATG TCCTGTATTC TCTATGTTTG CTGGTTATTA TTATTGAAGT	300
CCTCTTGTTT TAGGTTTAAA TTATAATGAA AAATTATCAC AAATTCATTT CTGATTAAAT	360
TTCTTAGGTC TTAATATTAT TTTCTTCCT ATGCAATTTCT TAGGTATTAA TGGTATACCA	420
AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTTGAA ATTTAGTATC TTCAATTGGT	480

TCTATAATAA CTATTATATC ATTAAATGTA TTCCTTTATA TTATTTATGA TCAATTAATA 540  
 AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAAT ATATAAACT ACCTGATTTT 600  
 ATTGAATCAA ATAATATTTT CTTAATGAAT ACTACTAAAT CATCATCTAT TGAGTTTATA 660  
 TTA 663

## (2) INFORMATION FOR SEQ ID NO:188:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 639 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1075RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:188:

GATCTATCTA ATTACAGTAA AGCTGCCAAG GGTCTTTTCG TCTTTCTACA AATACTTAGC 60  
 ATCTTCACTA AGATTTCAT TTCACTTAGA TTAAAGGAGA GACAGTTGTT GTATCATCAC 120  
 GTCATTCATG CAGGACCATA ATTAGTGGAC AATGAATTC GCTACATTAT AACCCCTATA 180  
 ATAAGGCTGC TATTTAATAA AATTTATTAT TATTATCTTT ATTAAATAT TAATTTTAT 240  
 ATTTTATCAT GGAGCAGAGT TCACACITTA TACTTTAACT TACGTTTCTG CAAAGTGTG 300  
 TGTTTTATAGT AAACAGTTGT ACAACTTGT TCTTATTATT AATTATTATT TTAATTAATA 360  
 TCTCTTATT GACTAACGTC AGAGCTATTT TTGCCGAGTT CCTTCTCTTT AATTATCTAA 420  
 TTCACCTTCA TATACTCTAC TAACATACTT GAGTGGGTCT ACATTACGGT ATTTTATACA 480  
 TAAATATTTT TTGAACCTAA TAAATTTATA AAGACATTAT TTAAGTTAAT TTATATATTA 540  
 GATTATTTCT ATCATATTAT ATTTTTTAAT ATATTACTTA AGAACCGCTT TTATTGTAA 600  
 ACCITATGCT TTAGGTGATA AGGATTATAC CITATTTTC 639

## (2) INFORMATION FOR SEQ ID NO:189:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 663 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1075UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:189:



GATCCAGTGA CTTAGTAGAA TGATAAAATT AATAAATATT ATTTATTAAT ATTTGGTTAA 60  
 CAATAAAATT CAATAATTTA TTAAATAAT GATTAAATAA TCTCAATATA AAATTATTAA 120  
 5 TATAATGAGA TATATATTTT TAAAAAGAAT ATATAATTAA ATAATCCCAA CCAAAATTTG 180  
 TCCAGCAGC TCCGGTAAGA CAANGGGGGT TAGCGTTAAT CGTAATGGCT TANAGGGTTC 240  
 GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA 300  
 10 GTAAAGATGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360  
 TTAATTGACA TTGAGGAACG AAGGCTAAG TAGCAAATCG GATTCCGATAC CCGAGTAGTT 420  
 TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA 480  
 15 AATTAAAGTA TTCCGCCCTGA TGAAGTACGT AGCAATAATA AAAATCAAAA CAATAGACGG 540  
 TTACAGACTT AAGCAGTGGG ACATGTTATT TAATTCGGAT AATCCTCCGA TAAATCTTAC 600  
 CATTTTTTGA ATATTTAATT ATAATAATTT ATAATTAATT ACAGGCGTTA CATAGTTGTC 660  
 20 TTC 663

## (2) INFORMATION FOR SEQ ID NO:190:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 650 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1076RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:190:

GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGT 60  
 ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCCTA AAGTATTAGG TGAAAAGAAT 120  
 40 ACAATAATG AAAAGAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180  
 TAACCATOCA TTGGTAATCT ATCTAAATTA CCTGTAATAC CTAATGGATT TGATGAACCA 240  
 TGTACATGTA ATAGCAATTAA ATGCATAATT ACTATGCTG CAATAATAAA TGGTACTAAA 300  
 45 TAATGAACA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCCTCATAAT 360  
 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA 420  
 GCACCTCAAT GIGACATTTG TCCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480  
 50 GTTAAATATA AGATAATAAC ACCAACTGTT CATACAATAA CTCTAGGTGA TTTATAAGAA 540  
 CCATAATATA AACCTTTACC AATATGAATA TACATACCAA TAAAGAAGAA TGAAGCACCA 600  
 TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTTCAT CTCTCATAAT 650

## (2) INFORMATION FOR SEQ ID NO:191:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 663 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1076UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:191:

GAICTAGAAT TATTAAGTCA ACTATTAAC T AATAICTATA ATAATAATGG TTTATCATT	60
AAATCATTAA AGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA	120
AATTATGTTA ATAAATATA TAAATATAAT TTACTAATTA ATAATAATTT AAATAATAAT	180
AAAAAAGATT TAATTAATTT ATATACTTTA GATAATAAAT TATTAGATTT AAGTATTCCT	240
AATAATATAT TATTAGGTAA ATATTTAGTA GGTAGTAATA TCCAATTARR GGGTAGACTA	300
TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAGGTAC ATTTAATAAT	360
TATATATATC AATGAAGTAA ATTAAATAAT TTATATAAAT TAAATTADAT ATCACTTAAT	420
ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAATGGTA TATTTAATAT TAAAATTAAA	480
TTAAATACTA TTTAATAAAT ATCTATAAG TAATTTCTTA TTTATTTTAT AACATTTTAA	540
AATGTTTTAT GTTAAATAGA TAATAATCAA TTAAATAATA AAAATTGAAG TCCACAAAT	600
AATCCATTTT CCTTTATGAA TCAATTAAC TATGGTTTNC TATTTATTTT ACTAATTTTA	660
TCT	663

(2) INFORMATION FOR SEQ ID NO:192:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 642 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1077RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:192:

GATCCAGTTA CTTAGTAGAA TGATAAAATT AATAAATATT ATTATTAAT ATTGGTTAA	60
CAATAAAATT CAATAATTTA TTAAATAAT GATTAAATA TCTCAATATA AAATTATTA	120
TATAATGAGA TATATATTTT TAAAAGAAT ATATAATTA ATAATCCAA CCAAAATTIG	180
TGCCAGCAGC TCCGTAAGA CAAAGGGGT TACGGTTAAT CGTAATGGCT TAAAGGGTTC	240
GTAGAATGAT TATTTAAAT AATAATTAGA ATTAATAAAA ATAATTTAAG AATTATTCAA	300

GTAAAGATGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360  
 TTAATTGACA TTGAGGAACG AAGGCTAAAG TAGCAAATCG GATTGATAC CCGAGTAGTT 420  
 TTACCACTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATPA ATTAAATGAA 480  
 AATTAAAGTA TTCCGCTGA TGACTACGTT AGCAATAATA AAAATCAAAA CAATAGACGG 540  
 TTACAGACTT AAGCAGTGA ACATGTTATT TAATTGATA ATCTGATA AATCTTACCA 600  
 TTTTGAAT ATTTAATTAT AATAATTAT AATTAATTAC AG 642

## (2) INFORMATION FOR SEQ ID NO:193:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 658 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1077UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:193:

GATCCGTGTA TTTTTTATTT ACATTATTTA ATTAAAAATA ATGATTTAAA TAAATATTTT 60  
 TTATAAAAAA TAATTAGTGC ATGTGTACAT GTTCATTAAA GAATGATTAT TATCAAAACC 120  
 ATCAACTAAT TGTTATATAT TTATTAAATA TTAATTTCAC TTAATTAGA ATTAGGAAC 180  
 TTATCTATTA GTCTGGGCTG TTTCCTTTT GATTATTAAC CTTATCGCTA ATAATCTGAA 240  
 ATATTTAATT TTAGATTAAAT AATATATTCT GAGATTAAAT ATTTTAAATA AAATAAATA 300  
 TTATTCCTTA AATAATATTA ATAACATATC CATATATATC TAATATTAA ATAATCATA 360  
 TAACATATGT TTGCTAGAAA ACCAGCTATT TGCAATCAG ATTTGACTTT CTCTACTAC 420  
 CATTATTCAT CAGATAATAT TGCTACATTA ACCTGTTCAA TGGTTTTAT ATTTTATAT 480  
 ATTTTAAATA TAATAAATAT ATATTTTAAT CATTTGATAA TAGTAAGATC ATCTGCTTTC 540  
 GGGTTAATTA ATATTAACTA AATTTAATT ATTTTAATTA ATTTTAACAT TGTTAAATAT 600  
 TTATATTATT TTAATAATCA TTTTTTATTT TAATATTATG CTAATATTAA TTACTTGC 658

## (2) INFORMATION FOR SEQ ID NO:194:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 445 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1078I1

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:194:

5 GATCTAGTTC GTTAACTTCC GCAAAACACC TGTCAGCCG TTCAACAAAC GTCTGGATCA 60  
 GATCCAAGAT GGCACGTTCT GACTCTGGT COTGACAAT GAAAGTAAAA TAGAGTGTIG 120  
 CATAGTTCTT GTAGATTATT TGGATACTTT CGTTAATGGT TTCCTACCA CTCGATAGTA 180  
 10 GCGAGGGCGG CGTAATTAAG AATGAAGACT GAATTGAAT GTTGGCGCTG CTGATCAGCT 240  
 CGTAAACCTG CTCAGTAGT AGCTTCTGCT TGGGAGATC GACAGGAGTA TAGTACTTTA 300  
 CAAGCCTAGG TTGGCACTTC TTGTTAACTT CATGTGTTAG TAGGATAATT TAAGTACTGC 360  
 15 GCGTGGCGG TGGCAAAGG GTTCACCAT ATCAGGACG CGNCGNNTCA TCNCGNTCC 420  
 CCACCAAGGN TACNCGCNC NCCCA 445

## (2) INFORMATION FOR SEQ ID NO:195:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 443 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG107812

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:195:

30 GATCTAATAT TCAATTGGCA AACTCTTGAG AGTGTCTTG AGGAAATTAT TCAAGGGGGT 60  
 ATGTAATTG AAACGAACGT GAAGAAAATT GTGAGACCG TCGACGAGCT CAATAGAACT 120  
 35 TCTAACCAGG AAGCCAGGTT TGGGAATGGA CTAGGAAAG CTTTTCAGGC CATCACCATG 180  
 GGTGGCTTTT CAAATTGGG TGGCGGCAG TGAATATTAG CACACACTGT CTTGAAACCC 240  
 CATAATAAAT GAAATAAATA CTCCTTGCTA GTGTCTAAGT ACGAAACAAC GCCAAGGCTT 300  
 40 TTGGATCATC TAATACCA TTCACTTCG CAGCACTAC CATGGGCACC AACTCTCTT 360  
 ACTTGTATT TCTGTGCT TCAATTGGC TTGGCTGCC TGATGGTCTC AAAGCTCTC 420  
 CCTAATCCTC TGTAACTCTC CTG 443

## (2) INFORMATION FOR SEQ ID NO:196:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 451 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

55 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1078RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:196:

5 GATCAGGATG GCGATGAGAT ACTACCTTGA AGCAGCAGCC TTGACCTCAG CTAACCTCCG 60  
 AAATTCCTTT CATTTTTTGA AAGCAGATTA TAATTGCTTC TAAGCCATTC AATTGCTTTA 120  
 CTTTTCCGTT AATCAATGCT CTATTTTACC ATCATTCGAA GTAAGAGTAT GTCGATATGT 180  
 10 CTGACCTAAG CTACAGATTA TCTAATCACA TAGTTATGTA CGAACCAATA AGATTATCGA 240  
 ATTTCGTTGA AAAACTCAGG CGAACGACAC AGCGTTGCTT GCGCCTATTA GATGCTTTGG 300  
 CCATAGCATA TCACGAAGTG AACTCAGCT TTTTAAGTAA CCGGAATAGT CTGTAGATAT 360  
 15 GGTATTGIGA AAAGTTTATT NGCTGGTTC ACCCCCTGGG AATCTNGGNG CTGNGCTGGG 420  
 TTCTTAGGIG GGAATCCGG NCCCCCINT C 451

## (2) INFORMATION FOR SEQ ID NO:197:

- 20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 480 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- 25 (ii) MOLECULE TYPE: DNA (genomic)
- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1078UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:197:

30 GATCTCTTC CTTTCTGGTG TCTTGCCAAG CCTTATTTC TTGACCAAAG TATTCTTCAC 60  
 CGTTGCCCCG TACTCTGTTC TCATAAATTT CCGCGGTAGG ACACCTCTGG GCTTTCTCTT 120  
 35 GGCGATCTAT GAGGGCTTTG CAATCATCTT CACGCGCGCT AAAGTTTTC CAACATTTTT 180  
 GTATGAGCAG CTACTTCAGT AAGCCCCCGT ATTAGGATTG TTAAAAGAAG TAGGATCGAT 240  
 ACCCTTCAAT TCCAGATGAT CGTTGCGGTG GGCATTAAAT TTGTTAGCCA CCTAATACTG 300  
 40 AAATTTACAT ATTATTGCAC TAGTTAATTA ATATTATGA TGCAATGGGA ATCTATATCG 360  
 GTTCTCCGTT CCATCTTCTC GTAATTAGAT CACGTCGGAT ATNGTNGCCC CGTACCGAGG 420  
 45 AGGGACCCGA TTGGGNTTAT CTTTATGGTC CCGAGAANIN ATAGAGNGCC NTAANATAGA 480

## (2) INFORMATION FOR SEQ ID NO:198:

- 50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- 55 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1079RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:198:

GATCGCTCAT	TATTTTGGT	CGAGGCTGG	GGCTCTTCT	GCTTCTTCT	AAATACCTTC	60
AAATTTTGGT	CTATATAGT	CTCGACTCT	TCCTTCTTG	AACATTCCGC	CTTGTAAGC	120
TGTTGAAAT	ACTGCAGGC	CTCTGCACT	ATCGATTCA	CCATTGAAIT	GGCTCTTGT	180
ATCTCTTGT	GGAAGTCT	TTGTTTGGG	ATGGGTTT	GGCGAGTTG	AGCTTGCAA	240
CTGGTTGTAT	CAGACTGCT	CATTTCATCT	TCCAGTCCA	GTGGATCCAT	CCCTGCAGCT	300
AGCTAGGTG	GAGTGTCTA	TGTACAGTC	TGCTGTGGT	GTTAGGGGC	TCACCTTCT	360
CGACTGTTCA	AAGATGTGG	TTTCCAGCA	GAAAAGAGC	AACCGAAGT	ATAAGTACG	420
CACCGAGGC	TAATTTTCT	AGCTTGGGA	TTTAGCTCAG	TTGGGAGGC	GCCAGACTGA	480
AGAGAACTT	CGTCAATCG	TAATCTGGG	GTCTGTGTT	CGATCCACG	AATTCGCATA	540
TTTTTTGCT	ACGTACCCA	CCGGTANGA	ACTGGCATT	CCTACCTAAT	GGCCAGCAGT	600
GGAAAGCCCT	CTTGIGATAT	ATATATATCA	AGTAACACAT	CTATGTAAC	TTTTGACACA	660
GTCCCAAGGT	GAATCTTGC	TGGATCTGC	CTCATCTGAR	TCC		703

(2) INFORMATION FOR SEQ ID NO:199:

30

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 673 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1079UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:199:

GATCAGCGAG	CTAGGTACC	GGACGAACAT	GGGTTGGGC	AGCTTCCAT	ACTTCAGCGA	60
CCGTGTGTGT	AGCGCAGAG	TTCCGTCTG	GAATAGGAC	TGCACCTCTG	CGTTCAGCAG	120
ATCGCCCTCT	TTGAGAAAG	TGGCATCTG	CAGTCAATG	CTCTCAGACT	TCCGCCGAG	180
CACGCCCGCG	GGCAGTTCA	CAGAACCCAG	CATGAGCACT	GGTGCTGCT	TTCCGCCAAT	240
ATCCACCTTC	CATCGTTGT	TGCCGACCT	CACGATCTG	CCGACAATGT	GGTCGCCCGT	300
CTCTGGCGTG	TACCGCCCG	GCCAGGAAT	CACGACAGG	AGTCGGTTCA	CCCTGGAAAC	360
GGTGGCCGCC	ACCGACGAGT	ACGTTTGTG	CTCCAGGAG	TATGTGCCGT	GGCCTGGCAT	420
CCACACAGGA	TCATCTGTA	TCAGCTCTC	TGGGTCATA	ATCAGCGAG	AATCGCTCC	480
TTCCATCTCC	ACGTCCAAAT	CAACTCTTC	TTCTCATCG	TCCAGGTAAT	GGCTCGGATG	540

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GAACTGAAAC CCACGCCGCT TCGGATGCT TATTACCTCG CTCATTACTG CTGAGACGAC 600  
 ACGTTTCARA ACTTCAGAGG CTGCTAGGC CAGGCGAAAC AGTGTGARG ATACGCTTTG 660  
 5 TTACTTCTTG AAG 673

## (2) INFORMATION FOR SEQ ID NO:200:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 441 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1080UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:200:

GATCCGCCCA CGCATGTATT CCACTATGTA CGCTATATCG CGGCTCGCC TCCGTGCGGG 60  
 GCACCGCCTT ACACCTCAAA GCGCAGCCT TTCATGCAGC CTTGTACTT TTGCACCACT 120  
 25 TCCTGGCACT TGACCGCATC CAGCGCGTTC AACAGCAGAC AGCTGTCTCT CGCTTCCTTC 180  
 TCGGCTTGC ACACACAGCA TGGCTTTGGC TTGTGGTAC TACTACCTTG TGAAACAACCT 240  
 GGCACAGAAG AGGATTTCAG CATGATTAA TGTACAGTTC TTGGAGATCT TCCAACACCG 300  
 30 CCGGCTCCTT GGGGTTTTTC TCACTTTAAT TTGCTTCAA CGCGCAAAA TTGTTGTGA 360  
 ATTACAATAT ACAGAGGGGC AGTAACCCCT TTAGTGGCTT TTTGGCTTCT TGGCTGGAA 420  
 ANTINGACCC CCCAAGTNC C 441

## (2) INFORMATION FOR SEQ ID NO:201:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 644 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1081RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:201:

GATCTTTTGC AGTGACTAGT GCATGCGGCT ATTTAAAAAG TATCGAGTTA CCTTGGAAA 60  
 TTTCAGCAIT TATAGTACTG ACGAGCGGC TACAAAGCCA AGGCTTTGAA GGTACTAGGA 120  
 GACATATTCA GCGGCATAAA TCACCGCAAG CTGATTGAG CGATGTTTTG GGTGTGTTT 180  
 55 ACAGGAGCCA GCGCGTGGC ATGCTTTTIT GGTATGGGA TGGTGGACCG ATATCTCTCC 240

TTCAAGCTGC ACAGGCATAC GCACCCGTTT GTGTGTGTA CACTTTTCGC AAATATGACA 300  
 CTGTTGCTCT CGATCACATA CTTGCTTCCA CTGATGTGT TTTACTCAA CCAGACAAGC 360  
 5 GGGCGGAAG ACGAGCGGC AGAGCTGCG AACCTGCGT TGTCTGGGC GGTGATCTAC 420  
 TGGCGGAGT TTGTGATATG CTGGTGGTG TTCCCGTGC TGATTTCTGA CGTGGATCTC 480  
 AAGTACTTGT ATCCCGCGA GCCACAGAG CCGCGCGGC GCACCGTCT TCGCGACTG 540  
 10 CGAGCGCGC TTATATGCAA TCTCAAGTTC TATGTCTTT GTCTACTGG GGTGATCTGC 600  
 NGCTGTAT ATCTCAAGAC GACGACGAT CCGCGCGTC AGAC 644

## (2) INFORMATION FOR SEQ ID NO:202:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 669 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1081UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:202:

GATCAAGAC GAGCTGCGC AGGGGAGAAA ACCCCCCAC ATATGTCCAG CGATACGCTC 60  
 30 AGCATGGAAA ACCCAACCGT GGACTTGGC TCGTAGTTGT GCTTGGCTG TCGATATAC 120  
 TTCAGCAG ACATGATGAT TTTTATAAG TACAGCAT GGCAGTAGAA CAGTGTGAC 180  
 TGATTTTCA ACCCTGTTTG CGTAATGCTA ACCACATATT GCACTGTGC AATGCAAAAA 240  
 35 AGCCCGATGA ACAACTGCAT CATCTTCGG TGGCTGTGC TCATCTATT CGCCGCTCT 300  
 CCGGTGAAGC CCCATAGTCT GTTCCCCAT AGCACTGCG AGCCAGCAG TCGTTAAGA 360  
 AGCCAGCTAT GCATGGCATA CCAGTAGTCC GACCACCTA CCGACGGCT CACCGGCTG 420  
 40 GACGTGTGC CTTCATTCTG CCAGAGCAG TCTGCACAAC CACCGAGAGT ACTAGCGCTG 480  
 TATACCGAT GCAATTAAAC ACCACGTAGC CTTTGACAA TGTCTTGG CTCTGCGCT 540  
 TCCAGTTGAT CCATAGTGGC GGATACATG ACACCGACCA ACATGTGGG TACAAGTATC 600  
 45 CGACCAACTG TCTCTTCTC ATTCCAGCT CGTTCCAAGT GCTTCTACG CCGTCTTCTG 660  
 GGTTCAGAT 669

## (2) INFORMATION FOR SEQ ID NO:203:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 654 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)



(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1082RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:203:

	GATCCACGAG CAACTATTA TTAGGCCCC CCCACCCAG TCTCCAGCAT TCGAAAGCCT	60
10	TCCTAGCCCTT TGTCCGATGT CCCAAGGTAC AATTTTCTCG CAGCTGAAAA TACGAAAGAA	120
	GCGCCAAGAA GTGGCCTTCT TTGAATCCAA CCGCGACGCC AATGATGTCT AGGCGGGCGA	180
	ACATTTTATA ACAGAGCTCG ATAAGGGCGA TAAGCGGCTC GGCTGTCTTT CTTCGATCGG	240
15	CTTGATATGC AATANAATGC TCGGACAGG TATCTTTGTC GTTCCCGCGA ANATCTTCCA	300
	GTGACTGGC TCAGTATACT TTGGCTAGG GTTATGGTA CTAGGAGCTT TAATGCTCT	360
	AGCAGTCTT TATGTTTACA TGGAATTTGG AACTGCAATA CCGCGAAG GTGGCGAGAA	420
20	GAACTACCTT GAGTTCATCT TCAAGAAACC GAAATCTTC ATTAAGTCAA TGTACTCAGC	480
	ATATGTCATC TTTTATAGCT GGGCCGAGG TAACTCTGTG ATGGCAGCTG CAATGTTCT	540
	TGATGCTGGA AAGGTGAAG CAACAGTTG GCGTTGAAG CCGTCTTGA GTTGGGTCA	600
25	TTTTCTCTG CTTCCTGTG AACTCTCTCA GTGTCAAAGC TGGGTGTGA CTTC	654

(2) INFORMATION FOR SEQ ID NO:204:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 680 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1082UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:204:

40	GATCCGCAGC TTCCGCAAGC GCGCTTCTC CTCCTGTAC TCCTGTGCT CGTCTACTC	60
	CGGCACCATC GAGGCTCCG GCTCTCTC ATCCGCGTC GCGTCTTCT CCTCTCCAC	120
	CGTCTCCGC AGCAGGAGT CGTCTTCCG CCCGCTCTG TCGTCTGCG GCTCCAGCAG	180
45	TGCGCCCGGA AGGCTCTCT CGTCCGGAG CGGCCGAGG TACGGTACT TCACCGGCC	240
	CATCTCCGC TCAATCCGC GGATCACAC CTCGCCACG TACGGTCCA TGATCTGCG	300
	ATAGTGGTAG ATTTCGACT CCTTCGTGT GTACATCCG GCGTCCAG TGATCCGCAC	360
50	CAAGTCGTC AGCACTCTT GGGCCGCTT GTAGTGTG AGCTCTTTT TCACCGTCC	420
	GAGGCTGAGC GCTTCTTGA TGATCCGTA GTAGTGGGA TAATCTTCC TCAGCGCAA	480
	AGTGTAGAAA ATCGCAAAA TCTCAATACC ATTTCTCTC TTTAAGTCAA ACACGCCATC	540
55	CAACAAAAC TTGAGCTGT CCGTAGCAA CATCGTTAG CCTCGCCACC TGAAAAGCTG	600

AAGACTTTGG TAGTGTAATA TGTGTTCCGA AACAACATCC CACGCGTGGT TTCTGCCCGT 660  
TCACAGCCTT GCTTCAAGTT 580

(2) INFORMATION FOR SEQ ID NO:205:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 613 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1083RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:205:

GATCATCAAT TTCTTTTGG CTGTTTCTT ATTACAGCC TCTATTTCTG AGCGAACATG 60  
CGACGCCACA GCAGTCTAA TGAGCTCATC TGTAGTTGG GTTGCAACCG CGTTACCCAG 120  
TTCATTCCTT TCTATTGCTT TGGAGCCAGA ATCTCTAGCT TCATCTTGAG CCTAGCTTC 180  
AGTTTGGGCT CCCAGTTTAA AAGCTGTTG GTTAAATGA AAAGTATTTT CCTCTTTTAG 240  
CTGGGAATTG CCAGCAAATG GTTTCTGTG CGATGACTCA AACGGTACAT CTTTTTTAGT 300  
TTTTGTTTC TTTAAATAT GCGGTGAGGT TGTAGAGCCG AACTAGACA TAAATGGTCC 360  
CGTAAACTGT TTCTGGGACT GCAGATCAGA CTGTTCTGT GCTTGAACT GCATGCTAGA 420  
TTTCACTTCA CTTCAGCCG GGGATTGGT AGTGGGTTG GTAGTCTTAT AATCTCCACT 480  
ATCGAAGTTG AAAGTTTAT ATATATCTCTG GTGTTCTCCG TGCAAGGAAG ACCCTGCTC 540  
AATGATGCTT TCCGAATATG TGGGTAGATT TGAATCATG CTCCCTAGNA GCAGCATCAT 600  
CCTCCGAAAG AGA 613

(2) INFORMATION FOR SEQ ID NO:206:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 656 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1083UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:206:

GATCTTGAGC GGTGGGAGC AGGAGGAGC CGAGGAGGAG CCGGAGGCGG TTGTGGGCGA 60  
AACCCTGAGC CGCAGCCCGA CCGGCGGCGC GAAGCGGCGC TTTCGGGATG AGGAGGCGGA 120

GAAGGCGGAA GAGGCGGCGA CGGCCGCTC GGACGACGAG GAGGCGCCCA AGAAGGCGCG 180  
 GAAGTAGCGT AGATAGAAGG ATATAACTGT ACAGTACCAT GCAAGACGAA TCTGAGGCGG 240  
 5 GGGGACGCGC GCTGGGCGG CGCCGCGTA GCTGCGGAGG GCAGAAAAAA TGGCCGTGGA 300  
 CAATCTCTGC GTCATCATCC CGGCCAGAGG ACAAGATGCC TGGCAAGAAG ATTGCGGGTG 360  
 TGTAGGCGC GACGGCTCC GTGGGCAGC GGTTCATCTT GCTGTTGGG GACCACTCTG 420  
 10 ACTTTGAGCT GAAGGTGCTT GGGGCATCC CGGATCCG TGGCAAGCG TATCGGACG 480  
 CGGTGAATTG GAAGCAGACC GAGCTGATC CGCGTTTGC CGAAGACATC GTGGTGAGCG 540  
 AGTGCAAGGC TGAAGCATTT TGGGCTGCG ACGTTGTGTT CTCTGGCTC GATGCGGACT 600  
 15 ACGCAGGCC CATCCAAGCG GGAATTTGCC GACGCCGAC TGGCTGTGT CTGAA 656

## (2) INFORMATION FOR SEQ ID NO:207:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 453 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1200RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:207:

GATCGCTCAT TATTTTGGT CGGAGCTGG GCGCTCTCT GCTTCTTCT AAATACTTC 60  
 AAATTTTGGT CTATATAGT CTGCAGCTT TCCTTCTTG AACATTCGC CTGTGAAGC 120  
 35 TGGTTGAAAT ACTGCAGGC CTCTGCACT ATCGGATCA CCATTGAATT GCGCTCTGT 180  
 ATCTCTTCT GGAAGTGT TGTTTTGGG ATGGGTTT GCGCAGTTG AGCTTGCAA 240  
 CTGGTTGAT CAGACTGTC CACTTCATCT TCCAGTCCA GTGATCCAT CCTGCAGCT 300  
 40 AGTCTAGGTG GAGTGGTCTA TGTACAGTC TGTGTGCGT GTTAGCGGC TCACCTCTG 360  
 CGACTGTTC AAGATGTGG TTTCCAGCA GAAAAGAGC AACCGAAGT ATAAGTACG 420  
 CACGCGAGCC TAATTTTGT AGCTTGCGG TTT 453

## (2) INFORMATION FOR SEQ ID NO:208:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 590 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1200UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:208:

GATCAGCGAG CTAGGTACCC GGACGAACAT GCGGTGSGC AGCTTCCCAT ACTTCAGCGA 60  
 5 CCGTGTGTGT AGCGCAGAGC TTCCGTCTTG GAATAGCGAC TGCACCTCTG CGTTCAGCAG 120  
 ATCGCCCTCT TTCAGAAAGC TGGGCATCTG CAGCTCATCG CTCTCAGACT TCCGCCCGCAG 180  
 CACGCCGCCG GGCAGGTTC AAGAAGCCAG CATGAGCACT GYGTGCTGCT TTCCGYCAAT 240  
 10 ATCCACCTTC CATCGYTTGT TGGCGACCTC CACGATCTTG CCGACAATGT GGTGCGCCGT 300  
 CTCTGGGGTG TACCGCCCGC GCGAAGGAAT CACCGACAGG AGTCGGTTC ACGTGGAAAC 360  
 GGTGYCCGCC ACCCAGAGT ACGTTTGTG CTCCAGGAAG TATGTGCCGT GCGCTCCCAT 420  
 15 CCACACAGGA TCATCTGTAA TCAGCTCTCC TGGCGTCATA ATCACCAGAG AATCCGCTCC 480  
 TTCCATCTCC ACGTCCAAAT CAAACTCTTC TTCCATCG TCCAGGTAAT GCGTCCGATG 540  
 GAACGAAAC CCACGCCGCT TGGGGATGTT TTTTACCTCG CTCATTACTG 590

## (2) INFORMATION FOR SEQ ID NO:209:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1201RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:209:

GATCTTCGAG ATGAACCCAA TATGGAACAC GGGCTTGGC AGCTCGATGT GCGCGAAGTG 60  
 35 GCGCGGCGAG TCGTTTCATGC CCTCGCCACA CGTCTGACAC TTGAAGTTCC GGTGATGGA 120  
 GCGCAGCCGG GGGTCTGTCA GCGCTCCAC CTCTGGCGGC ATCTGGGTCT CGTCCATGCT 180  
 40 CTCTGGAAAC TCAATCTTGG CCACCGAAAT CCGCCGACC TCGTGGGGCG AGAACAGGCC 240  
 AAACGCAACC TCCTTGATGG TCGCAGAGG CCGGCTGAA TACGGAAAGT CCACCATGCG 300  
 TGTTGTGTAC TACCGCTCCC GGAGATACAC CCGTTTGCAA GTCTGTGTGT GCACCTGAGG 360  
 45 CCGAGCGGCC ACTCGCAATC CTCTTTTACG CCGACCGCTT TGTTTCCTTC CTTTGGCCGA 420  
 ACAACGAAGC TCTGTATAT GTGCCCGCTC GAGACCTAA GCGTCTCTCT GTGGAACACA 480  
 CGCTACGCC CAGAACTCG TGCTTTTACC TTGCAGCTCT GGAATTGGTN CCGCGCAAAC 540  
 50 CNGCTATTG CTTGGGGGAA CNGCTATGCT CCGTGINATC TCAGCTGGAA TNCACANAA 600  
 ACGACCCCC CACCTACCCC NCAACTCTGG TTATGGATT TTGCGGGGAA TAAACNANT 660  
 GTTNCAAATC CTTNACCCC CAACTGTGT NTCNCTGTT CNGTNCNTN TTACTCNTA 720  
 55 CCGTCNACN CCAATTTTTT TNCCTGTTG CCGT 754

## (2) INFORMATION FOR SEQ ID NO:210:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 643 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1201UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:210:

GATCCTCCGA TTAGCCTCGT CTTAAAACTC AACCAAGCTG CTCTGAAACA AACACACGT 60  
 ACCACTTCTG TGTGTCTCTT CTGCGCTTGT TGACCGTCCC GCAACTACTA TGTCTGTACG 120  
 TGTGTTTTTT COGAAACTT GCCACCGTCT CAGAATCAGA GCTGTGAGA TTCTTCTGTC 180  
 GAATATCGCT CTGACGCTC GCTTACGTGC GCGCGCCAG TGTCTTTAAC CGCGCCGTA 240  
 GCGCGCGCC CTGCGCGTA CCAACAAGCA TGGCAGGAGA CACAGAGTAC TACAAGCAGG 300  
 CGGTGGAGGA GTACGCGCG CTCAAGCAGG ACACCGACCC GGAGGAGTGG GACAGGCGGA 360  
 TGGCGCAGAC GCGCTGCTAA GTGAGAATA TGGCGCTGCA GCTGTGCCAC GCGGAGACCG 420  
 GGGACTGGCG GCGGTGCGCG GCGSACATGG CGCGGTCAA GCGGTGCTGG GCGGCGCAGG 480  
 CAACCGCGAG CGCGTGAAC ACCGTGGAG GTGAGCTGG GCGTGTAAAT AGGTGTATCT 540  
 GGAGGGTGT CAGGTGACA CTGACACGT TACGAACAT TTTGCGGNN GCGGCGCGA 600  
 ATGCCANCC CCAATCTNAN NACCCAAACN GGGTATGAT NTN 643

## (2) INFORMATION FOR SEQ ID NO:211:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 735 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1202RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:211:

GATGAAAAC GCTGCCACCG AAAGCTTGAC ACTGAAGGGA TTGAGTATT CTCTTCATT 60  
 TTCCAAGGCG AATACCAGCT TGTCCCAGGC TGGGATCCA ACCTTCCCTT CCTTCAGGCG 120  
 CTGCTTGATC CTGTGCTCTA TCTGCAGCTG AGGTAGCAGC TCTGTGATCA GCATGACGAC 180  
 GCGCAGCGCA GAGGTAAAC CTTTCAGAAA GCGCTTTGAG ATTGCATTGT CGATGAAACC 240

GAGCCTGAAG ATGCCCATGG CGAACACGAG GACCCCTGAT ATGCATCCGA TAACCGCAAC 300  
 GGTGATCAAC GGTTCAGCG ACTTGTGGC CCATGCATCG CAGCTCTGGC CCACCACAAG 360  
 5 GGACGCAACC GTCTGGGGCC CTACAACCAT CGTCGGGACG CTGCCGAAGA CTGCATATAT 420  
 CAGTGGGGGG ATCACCAGTG CGTACAGCCC TGGGTATGGT GACACATGTG CCATAGTGGT 480  
 CAGCGAAATG GCCAGCGSTA TCTGGAATGA CGTCAGGCTC AGCCCGACAA GCATGTCTT 540  
 10 CGCATTTCCC CAGAATACTC TGGCAGCCAG CGTATAATCG GCGTAGTAA GACNCATAAA 600  
 ATTNTTTTCC TNCCTACCGT TGTCTNTTTA TNGCTGTAC CCNTACGAC TTCTCANAAG 660  
 CAGTNCCCC CGCCCGGAG ACTTCANCC CTTCCCTACT CCCAATTTGG ACCANGACCC 720  
 15 GGTCTCTGGT GCTTN 735

## (2) INFORMATION FOR SEQ ID NO:212:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 777 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1202UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:212:

GATGCGGCC GCGCCCCAGG ACTACGTGA CTTCTCTCG CTCACACAG TACTGGACGA 60  
 CCGCAGCAG CCGGAAGCG ACTGCGTGA GCACAGCTAC AGCCCGATC CGCTGCAGCT 120  
 35 CCGCGTCTAC GCGACGCCC AATGAGAGCT CATGCTCCC GCGCAGTGG ATTTTTTTTC 180  
 CGCCCGCCCG CAGCGCTCG CTTGGCGTC ACCGAAGCCC CAGCGATGAC AGCCAGCGTC 240  
 CAGGATATCG TGGTGGCCAC CGCCGGGAC AGCGCGGGG GCGCGACGG GCGCCCCAAC 300  
 40 CAGCGGTCA CCTTCCCGT CGCGCTGAC AGCGGACCG GCGAGGTGCT CGTGGGCAAG 360  
 GCCACGGCA AGACCCCGT CGGCAAGGC CAGACAGAAG AGCAGTACTG CGAGCAGCTG 420  
 CAGCAGTACT TCGAGCGTGA CGCGGTCCC GAGTGCACGG ACCAGGCTG CCTGACCGC 480  
 45 GCGGCGCCG CGGCGCGGC GCGACCAAG CAGGAGGCG AGCGCTGCG CCGCGTCTA 540  
 CCAACGCTC TACTTCTCG GCGCGCTCG CGAANCCGC GGNITGCCC GCGACTGCTG 600  
 TATACGTTCC CNGTNGGG CNGCTNCA TNGCGCCG AANINCTNA NCTNNNNCT 660  
 50 NNTNNTNEN GACCCNNNN CCTTAATTT TTONTTNNN NNTTNTCTT TTCCCTCCC 720  
 NCTGTTACCC TNCNTNMC CNIGTNNIT CTTTGGTG NGCTNCTTC CNNTCTC 777

## (2) INFORMATION FOR SEQ ID NO:213:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1203RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:213:

GATCAACAG CTGCAGTTGT TGAAAAGGTT GCITGAATCC AAACCAAGGA AGGACGTATT	60
TTCTTTTCTA GGCTTGATA ACTAATCTCT TCTCCACTCT AGCTGGGGAT AACACCTGCA	120
GGACGTGAAC TAACAAGTTG ACTACTATAC AGCAAAATAA CTOGAACAAG TTATACAGAA	180
TTTTGTAAAT ATATTATAGC AGCCCTATTG CTATAATTCC ATCATTGTGT AACCCTTAG	240
CCTTGGTTCT CAGACTGGTC GTCAATTTCT TCATGATAGT TGATATTTT GCGTTGCCCT	300
GAGCTTTTCC TTACTGGGOC TGCAATGAGG CTCTACTCT TTGGCTGTA GTCACCTGCA	360
GAGCTGGTGG TATCTTGGTC CTGGCTTCCC TCATGACAA CTTTGCCCTT CTCTTAGTT	420
TTAGATGAGG CTGATGATGG CCGTTGGGCT TCTTGAATTC TCTTCTCTG CCGTTGGGGA	480
TGTTGAATTG GCGGATTAG AGAAGCGGGA TACTTTGCC CTTATATTTA CTGTCAGTGT	540
TTCAACATGC TGGTCTGATA TACAGCTCAT GAAGCGTTT CTTTGGGCT CTGCCATAT	600
TGGGGAATGG CTGATAAAGT TCAGAAGGCA GATTAGCTCC CAGGTAGACT GGTAGATTCC	660
ACCCCCGTG GTTTTAGCTC AAANATNATC AATTGGCAAC CNGCTAGANA TAATININIGA	720
ACATAAGCTC CGTGTGGGAT CGNITGGAT CCCCC	756

(2) INFORMATION FOR SEQ ID NO:214:

35 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 781 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1203UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:214:

GATCATGGC TGGCTGCTCG GGGAGACCAT CTGGGAATGC GACACTGTGT CGATGTCTGT	60
GCTCGGGAAG ATCTTCAACA AGTTTCTGAC ACACGATTTT GGCCCGCTGC GCTCCCTGCA	120
GGCTCCGCG CCGGACCCGG CTTTGAATTT TTCTCTGACG ATCTGCCAGT CGTACAGTAA	180
CCGACTCGGG CCGCAATTCA CGAAGTTCTA CTCCGAGATC CTGTACGGGA TTACGAACCC	240
TGGCTCGGCC GGCTCAGGCG AGACCGCGGG CCTCCAGTGC ACATTGACT CCGAGTTCAA	300

GACTCTTCTG AAAGTGCATA AACTTACGGC CAACATATGG GAGCATGTGC CGGAAGTCT 360  
 GGGCTCCGTC GTCCGATTTC TGCATCAGGA GTTATGCTCA GACAATGTGC CGCTGCGAAT 420  
 5 TGGGGCTACG CGACTTGTAG GTGATTGTGT AGCCGCACCC TCCGCTGCCA ACTTGTCTAC 480  
 GATGCATACG GACACATATA ATGCCCTGGAT GTCGAAGATA GCGGACATAG ACGCCACCGT 540  
 GAGGCGCGAA TGGGTGAAAG CCATACCTAA GATACTGGAT AACAGTCTGA TTTGGCAACA 600  
 10 GATATCTGCA AAGGCTCAAC AAGACACTAA TGGATACCGA CGATGTGGTT AGACTATGCA 660  
 GCTTAGAAGC GCGTGAAGA ACTACAGTCC CCAGATTCTT GGGANATCTC AAAATTCCAC 720  
 TTNTTCNAA TTGTTGGGCC TACCCAAANA AAACNAANCT TAGGAACTTT TCATTGTAC 780  
 15 C 781

## (2) INFORMATION FOR SEQ ID NO:215:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 765 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1204RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:215:

GATCCGCTTG GCTAGGTCCT CAGCCGGCAT GTGTCACGG TATAGGGCT CGGAGCCAAC 60  
 TAGGAAGCCG CGCACCGTGT CCGACTTGAT CCATGGCAAG TAGGTCTTGA GCGCATCCTT 120  
 35 CTCATCGAA AAGTGAAGGT CGTCGTCTGG CCAGACACCG ACCCATAGCT TGAAGCCAGC 180  
 ACGGTCCGCA GCAGGACCCA AGAAGTCAA CGTGTTCAG TCAGAGGTAG AGTAGACTTT 240  
 GACCGTGTCC GTGTAGGGCC CCAAGCCCTC GAAGTCGTG AGGTAGTCTT GAGTGTACTT 300  
 40 GCAGGTACCG TGTGCTTCT TCACACCTAG GTTGAAGGCC AAATGCCCCA TAGCGTGTAC 360  
 AGACGAGGCA CCAAGCAGAG CTCGGGAAC AGTGGCAGAG AAACGCATAG CTAAAGAAAT 420  
 GATGCTGAGT TAGTCTGGCT AAAGTGGCTT GTACTGGAGA AACGACAGAG AGGGACAAAT 480  
 45 ATATGTTAAT ACCAGGTCAG CGCCATCTGC CGGAGGAAAA AGAAATGTGC CCGGTGTTCC 540  
 CGGCACCTTC CTTAATTTAG AAGCATATC TATCAGTGA ATATCAGTG AAACAGTTA 600  
 AGCCTACAGA GAGCTATTGA CGGTGGCTG GAACAGTTA GCACTGAGTT ATGTACTAAG 660  
 50 GTGGCCACGC ACCATGCAGC TGTCTCGAT GCAATATAAC CCCCCGGCC CCGGCAGTCA 720  
 ACCGCCATCA AAAGTCTGTC CCGGAGTTC CCTCAATGT CCNTG 765

## (2) INFORMATION FOR SEQ ID NO:216:

## (i) SEQUENCE CHARACTERISTICS:



(A) LENGTH: 776 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1024UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:216:

GATCAGGAAG CAATAGGTAC TCAATTGCGG AAGATTGAGA GACAGCAAAG GTCAAGTGCA	60
GTTCAGCAAC ATCGAATCCA CACAAGTTAT GTGTACAGA GGCCATAACT ACAACGCAAT	120
GGCAGCCGGG GGCAGACGT TCTCAACAG TCCATATAAG AGCAATATGG GGTCCACGGG	180
GGCTGGCGGG CGCAGCTCAG AGCTGTTCGA GAAGTTGAG CGATTTCGA AGCGCATAGA	240
GGAGTGACG GACCACCGC TGGTCAGCG GTTCGTGCGG TACACCGC TGATTGCGG	300
GTTTTTTATT GTGGCAAGT TCTACGAAGA CTGATCCGG ATTCTGTGC AATGGCGGA	360
GCAGGTGTG TTTCTATCT ACTACGGCG CTACCCCGA GTTTTGTAG TGTGTTTTT	420
GATGTGGTC GCGTGCTGA TGATGTGGG GGCACGATG ATCTGCTGC GCAAGCAGCA	480
GCTGTATGG ACTGCGATC TATGGCGTG TATCATCTC CAGGATTTGT GTACGGGCTG	540
TTCTCCGCA CTCCTTCGTG TTTGGGAAT TTCAGGTAA TGGCGGTG CTGATCTT	600
CGTGACTCC ATCCGTGAG AAGCGCATC CATTCGGCAT GCTGCGGAG CTAACAGCAG	660
GAAGCGCAC CAAGCTACA TCTGCTTC GCGGCATAT CATAGTCTA GTTTGTGACT	720
TTACTCCG AACTGGTGA CGTTCTCTC CCTCGGAC GGTCTCCC TGGTIN	776

(2) INFORMATION FOR SEQ ID NO:217:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 747 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1205RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:217:

GATCGCACTT CAACCATTC AAGAAGAGC ACGGCAGTC GAGGAGAG AACTGTCAG	60
TGGCGGACAT GGGCAAGTG CTGCGGAGG CAAACGGGT GCGGTAGGA TGGCGAAGG	120
ACCTCTAAT CAAGATTTT GTCTTACGT CGATTCTGG CGTACGTC GTTGTCCAG	180
CGGCAAGGA CGACTTAGGC CGCGCGGCA ACGAGGAGT CTAAGAGG GCAATGCG	240

GCGCCAGACC TGCTTCGGC GTGATTGGCA TTGCCAACTG AGCTGGCTGC TGCCCGGTGC 300  
 CGGAAGTCT GGAAGGTTC CAACTAGAAG CTCTGATGAC TATGTTAGCA GAATAAACGT 360  
 5 TTTATGGTTC GCTGTGTTC CGCTGTATGT TACAATTGCA GCAATTAGAA GTCTGCTCTC 420  
 GCGCCGACG GCACGCTCG CAGCGAGTAG CTTCGTAGGA TGTTTGGCGC CGCCAGCAAC 480  
 AAGCCGAGGA AGGGCTCGCA AGGGTTCTAG CACCTTGGAC ATGTTACTCT GGTTCGTACT 540  
 10 GCGTGGCGAC GTTAGTAGG TTGGTGGAG AGCTGAGAA TCTCCACCG GTGCGGTCTC 600  
 GTCTCTGCCC CCNAATTGAG CCAGCNCCTG ATTTCTGNC ACTTTGGTTG ATCCNTACN 660  
 ATGAAATNT CCNCCAAAG AGCTGCCGT TATTTCTNAN ATGACATCG TTCCCCGAA 720  
 15 AAGTGTCTAA ACATCCCTGT CCCCCN 747

## (2) INFORMATION FOR SEQ ID NO:218:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 777 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1205UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:218:

GATCTTCAGG TTCCGGACA TGATTATCAG CGAGATGGG TGCTGGGC GCGGCCCCG 60  
 CTCTGCACA CGCTGGTGA ACTGCTCCG CTCGGCAGG TCCTGGGCA GCACCGAGA 120  
 35 GATCATCTT TOCAGCAGGA TGTCAATGAA GTGCTCTGC TCCTGTACTT GAGACACCG 180  
 GCGCAACTTG GCGCGCGCT GCTCTCGT ATCTCTCTG TCAGACATAC CGCGCCATT 240  
 GTGCTGGTC TCCTCTGCC AGAAGCTGT CCGCTGCTC TCAGCTGT GCGCAACGC 300  
 40 GAACTGCTG AAGTGTCTT CGATTGTTT GCGCTGCTG TCTTTGCCG TCAGCAGCG 360  
 CTCCATGTC GGTGCAACA GTAGCACGC GATGTTGGT ACCAGCTCC GGTTCGTGAC 420  
 GCACGGGCG GCTTTTCAT CGCTGCCAC CTTCTCTCT GCTTCATGA TGGTTTCATA 480  
 45 CTTCGGGCG AGGAATTCG CCAGCAGCA AGCGGCTTC TTGCTGCCA TTGCAACGT 540  
 CTCAGCGCG TTGCTCTAT GTCTCTCTC ATCGGCTCT CCGCCCCAG TCATATAGAT 600  
 TGGGCTGCG GGTAGCACAC TGCGAAGGC TGCTTGGTT ATATGCGGT AGAAGCAGTC 660  
 50 TCGCGGTCA GTTAGTCTT TGTGATGAT GAGTGTTCG CGATGACTG GATATAGAAC 720  
 AGTCATCTAT CGATTGAGAA CATAGCTATA TAGAAATGAT TTAAGTAAAT ATATCGA 777

## (2) INFORMATION FOR SEQ ID NO:219:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 751 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1206RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:219:

GATCGCGTCC GTGCTGTGTC GCTCCTCGTC CTGCTTGAAC TCGGTCCACA GCTTGAACGG	60
CCGGCGCGAC AGGTCCACCT TCGCCACCGT CTCGCTCACC ACCTCGGTTC CGAAGTTCAC	120
GGACTGGGOC TTGATCCGCT CCATGAGGTC GCTGCCCCGT AGCCCCGTGG GGAACCCCCG	180
GAAGTCTCA ATCTCGTTCG TTGTGCTCAG TTGCCCCGCT GCAGCCACTC CGTTCGCGAA	240
CATGCCCTCG TACAGCGTCG GCTTGATCTC CGCGCGCGCT AGGTAAATGG CCGCAGTGTG	300
TGCGGCAGGG CCGGAGCCAA TGATGTAAAC TTTGTGATGC ACCATTCTGT TCTGCAAGC	360
TTGTCCCAAC CGTATCTTG TTGCTGCTGC TAGCATCAAC TGTGCACCGC TAAGTTTCGC	420
TGCGCTTGC TGGTTTATA CCTCTGGGCT TCACCATCGG TGAACCTTGA TCGCCGTTAC	480
TAATTCCGAC GCTTATGTCC GCACCTGACA AATTGGGCTT CGCGGGTGGC CGACTGCGGT	540
CAGTGGGGGG TGCACTACAA GATACGCACC GCGGGCCTNT NGNNNTCN NC GCCCTCTCN	600
GNCGCCGOC GNCCTTENC AGGATCNTN CCTCANCTAN AACNNGGCC GNGNNNTCT	660
TTTTTTTGTN CNGCNAACGA AGGCAATNNA ATNTTNNIN GNCNINNGT TNGAANTGTC	720
CNNNGTGGG CATCGCGCT TATNAACACN C	751

(2) INFORMATION FOR SEQ ID NO:220:

35 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 778 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1206UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:220:

GATCGCTGC TGTGCACCA CCTGCTGAG GTAGGTGCT ACTCCAGCG CGAGATATGG	60
GTCTGCTCA ACATCTTACA GCTGACCTGC TTAAACGAGA CAACCAAGGA CAAGTACGAC	120
CGCCGCATCA TCAGTTCGCG CGGAACGGTT TCGACGCCC TGTCTGCAGA TAAGACCTTC	180
GCTCAGGAGT TTAACCTCAA ATGCTCAAC TTACGACCT GGTGCACCT CATGCCCGC	240
CTAGACCACG CTGTTTTCAT GTGGTGCTA GACATTATCG TGGCCGAGAA CTCACAACCC	300

TTCAAAAGCA ACCCCATCAT CCGGATAAG CTCAAAGGCA AGGACTGGGA CTACTACCGT 360  
 GATCTACAGG TTGTTGTGCA CTATAGGATT ATCTGGGCCC TGACTCTTAC AGTGCTTCTC 420  
 AGCTATCATT TTGGCTTCAA TAATCTCTAC GACCTCTCTT TTGTGAGCC AGCCTTCCAG 480  
 ATAATAGGGC CCGAACAAGC GACTTGGGGG ACGTGCATGC AACCTTTATC AAGAAATGGC 540  
 ATCACAATA TAAAAAGTTC TAGTTGCTCG ACTTGTATC TCATCTCTAA ACATAATATT 600  
 CTTTATATG CTGTATTAC TTANCTCAA CATGATNACN TATGCTGGA AGATTTCNC 660  
 GNTGGCCGTC AGAAGGATT TGTGTCAACT TMTATAAAC TGACCGTGC GCGCCTCCCG 720  
 TAACCCGANA TTTCTGATN CNTGATCTTA TGAGATGCC GGCNCATTNN CANIATTC 778

## (2) INFORMATION FOR SEQ ID NO:221:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1207RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:221:

GATCTGTTC AAAAATTGGA AACGCTTACC ACCTACCAA CACACCAGGA CTTTATTTGG 60  
 TAGAAACAGG CGATGGGCTT GAACAACAGT CACTAGAAAC GGTGCACCAA GGCAGCTTGG 120  
 CAACGAGGAG GCACCTTAGG GCTCAATGCG TTGATAGTAA AGCATGTACA CGAGCTTTGT 180  
 CTCGAGAGA AGGAACGAGC TCTTGCATC CGACAGTAC GAGTCTGAGA TACACCACCA 240  
 CGGGTGCGTA GTGGTGGCAG GTAAAGCCTT CAGTTTGGCG GAGCGGCTT CCGGACCGGG 300  
 GAGTACCTTC GTGGCAGCCG AAGATAAGCC CGATGAGCTC GCAGAGCTCG CTCGGAGCT 360  
 GTCTGTCTCG GCTGAGCGGT CCGGCTTGGG GACGGGTCTT TCGGTAGTA GTGACTGTTG 420  
 ATGGAAGCTC CCACTAACG GTCTTGAGCA AGCGGCATC GCGCCAGCG GAAGGCTTCC 480  
 AGCTGGCGTA GGGCACAGGC ATTGAGGGG CTGGCTGGG GAGGGGTCC GACGAGATCA 540  
 CATCTGAGCG AATGATATCT CCGCGTCTT TGGTCTTCC TAAGTCAGTT TTTTGGCGAA 600  
 CATCGGTTAT GCGCTGAGAA TGGTTGCCAT GTGCTGATT CATGCGCCAA CAGCTTATAG 660  
 CGAATGCCAA ACCCCACCA TTGTNTTCCC CNACACTGCT CNTGAGACAC CCCCCCGGA 720  
 AANTNAATGC GGTTTTMTTG TTAATAACCN TNAAAA 756

## (2) INFORMATION FOR SEQ ID NO:222:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 771 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1207UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:222:

GATCTAATGA GCGATAAGTC ACCGGTTATA GAAAGTTGGC CGAATCCTAC AACTGACTCC	60
AACTGGCCAC AGGAGATATC TCTATTAGAA AAGAATATCA AGGATGTCAT GCGTTCAC TA	120
AAGGGCGTTG ACACGCACTC ATGTGAACAG ATCATTAAAG AAATTCTTGT GGTGATTAC	180
GATGTTGAT GGAAGATAT AGCTGGTCTT ACAATAGCAA AGAAGTGT TT GAAGGAAACA	240
GTGTGTTACC CATTTTTGCG GCCAGACCTT TTTCGGGGTC TCCGGGAACC TATCTCCGGG	300
ATGTGTGTTAT TTGGACCTCC AGGAACAGGT AAAACGATGA TTCCAGGGC CGTTGGCACT	360
GAATCGAATT CAACTTTCTT TTGCATCAGT GCTTCTCTT TGTATCGAA ATACTTGGGT	420
GAGTGGGAAA AACTGTGCAA GGCCTTATTT TACCTAGCCA AACGGCTTTC CCGCTCAATT	480
ATATTCAATTG ACGAAATCGA CTCTCTACTA ACTACCGTTC AGATAATGAG AACGAATCAT	540
CCAGAAGATT AGACGAGCTC TTGGTCCAAT GTCTCCCTA ACGAGCGCCA CGGCTAGGAA	600
CAGAGAGCG AAGAGGCCAG ACGGTACTG TCTTGGGCGC AACCACCTAC CGTGGGCAAN	660
AANGANGCTG CNATAAACTT TTTCACGGT CTATNATCCC TTGCCGGAAT ACAACNAAAT	720
GTCTTTGAA AACTTNIIGGC CTCCAAAAAG AATTTGGAAC TNATTNNNN T	771

(2) INFORMATION FOR SEQ ID NO:223:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 740 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1208RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:223:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA	60
CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT	120
ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCAATCAT TTAATACTCC TCTAATTCAA	180
TTCTAAAATA TTCTTAATT AATAATTATA TAATAAAAGT TAGTGGATAT AGTTTAAATTG	240
GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAA ACTGAATATC TACATATTAT	300

ATCATTAAATA TAATAACTCT TTAATTAGAG TUGGTACCAC AAGAATGCTG AAAGCATTAG 360  
GGGTGTGTAC CTAGCTCTC CTAATTAAAG TTTATAAAAT TATCCTTAAC TAATAAAAAT 420  
5 AATTAACTAA ATAAATAAAT AATTAAITAA ATTIAAAATG TTTTAAAAAA AGAAATAAAT 480  
AATATGTITA TATTTAAATA GATTCAAATT TCCAACAATT CCCATTCAAT TAGTACTACC 540  
ATCACCATGA ACAATTGITA CATCATTAGT TTATAGTITA CTATACTTAG CTTACTAACA 600  
10 TGTATATGG TATAATANCC CTAATAAACC TTATANANTT TTTACCNAACT TTTGATTAAA 660  
AAAAGGGGGA NNNCTTTTG NGGACCCCTA CCNTAAAAG GNGTAATGGT TCCCCAATTG 720  
GTGCGCGAAA TAANTTGGCC 740

## (2) INFORMATION FOR SEQ ID NO:224:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 782 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1208UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:224:

GATCTTAATT TAAAAITTTA ATTAACITAT TATAATTTAG AAATATATAA TCTAGAGATA 60  
TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120  
AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180  
35 ATTTTITATA TTTAATTGAT TATATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240  
ATAAATAAGA AATTACTTAT AGAATATTTA TTAATAGTA TTTAATTTAA TTTTAAATAT 300  
AAATATACCA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTA GIGATATATA 360  
40 ATTTAATTTA TATAAATTAT TTAATTTACT TCCCCTGATA TATATAATTA TTAATGTTT 420  
CTTTCATAAT ATTTATTTT ATTAGTCTAG TAATATTTCT ATTTAATAGT CTACCCCTTT 480  
AATGGGATAT TACTACCTAC TAAATATTTA CCTAATAAT ATATTATTA GAATACTTAA 540  
45 TCCATAAAT TTATTATCCT AAGTTATATA AATTAATTAA TCCTTTTAT TATTATTTAA 600  
ATTATTATTA ATTAGTAATT ATATTTATTA TTTTATTAAC ATAATTTTGT ATAATATATA 660  
TCCATATAAT GGTATTTTAT ATATACCNIN ATGAATTAAT GANAACCCCTA TATATGANAT 720  
TAGTTATAGT GACTTAATCC CNACTCAAT ATATATAATT ATTATAGAN ANATACTTTT 780  
50 TC 782

## (2) INFORMATION FOR SEQ ID NO:225:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 533 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

5 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1209RP

10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:225:

GATCAGCCTA TGTAGCAACT GATCGGGCT GTTCGGTGC AAACCGCGAA AACACCCAC	60
CAGATTAGC AGACACTCC ATATTTTGAC CGACTGGAAC TTTGTGTACA CAAAGCTATT	120
CAGCTTGTC CTGGCACCG TCAGGGCAT GTTGTTCAGC CGAGTCGCTA GCGCGCACT	180
GCTGTGCCC TCGGCAGCG ATGGCTCCTT AAGATCCTGC GTTCGCATAT ATTGCGCAA	240
CTTCGATAGG TCTCGACTGA GGAATTACC GACATGGTCC AGTAATAACA ACACCCGAG	300
GCAGCCCCC CAGCTGTAAT TCACCGTTT GACCAGCAGA AAGTGCAATT GTAAAAGAT	360
GTACAGTAA TCCAGTAAA ATGTGGAAA GACCTGGTGG TTCTGAAGAT ACGAATCAT	420
CAGCTGAAGA TTCTTCAGTC TTCTCGTCC CGACATCTT GGAAAAATCT GCGNCTGTC	480
GCTTCTCTC CACTCGAAC GCAGGCTTC CAAGGACACT CCTTGCAATT GAA	533

(2) INFORMATION FOR SEQ ID NO:226:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 534 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1209UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:226:

GGAGGATCGT CGAACTTGAT TATTTTCTTC TGGTACGACG ACAGCTGTC CGGTTCCGC	60
TTTAAGGCA CCAGCACCAC GTACTGTTC GACCGCAGCC CGACTGTGCC GCTCCCTGC	120
TTGATGGCCT CTAGCGGTA CTCACCTGG AACAGTCTCC CAGTCGGGA AAACGTCACA	180
GTATCACCGT CGTAGTTATT TCTGAACATC ACTAACTCAC AGNCGCCCAA TTGNTCTGC	240
ACACCGCCCT CTTACTGGT GCTAGTTAAC TGGACAGGAG CTGTGTTTC CACCCGCCC	300
CGGGAAGTAG CTCTGGTATT GTCAATTTGAT ACGAGATTT GATATTCTG GAAAGTATA	360
TAGATGATTC CGTCTCCCG ATTGATTGGA GGTCTGGTGG CATACTGGAG TCGTCCGAG	420
TGTCGNATCT TCTACATAAC CGTGNAGG CAGGGAGAG GTTGNNGC GCAGTTGTG	480
CGAGTACCA TATTAGGCGA TGTGGGTGA AGAGTATCT ACTGGTGTG TTAT	534

## (2) INFORMATION FOR SEQ ID NO:227:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 547 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1210RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:227:

GATCTAAATT TATCAGCCCA TGGACGGATG GATTTCAGGC AGCGTGTGGC CGCAGCAAGG 60  
 GGCACGCCAG ACTGCGAGGT GGCAATAAT TCACATAGCA ACCTGCATTA TAAACATCCC 120  
 AAGTCATTAA ACTTACTAAA TATTGTGCG TAACCAAAAG CACCGTGTAT CATCATCTTC 180  
 ATAGTCTTAG CTGAACCTAC TGTGCGACCA GCGCTTACT ACGTATGTGA TCTCCCTTTT 240  
 ACAATGCTTG CCCACTGCCA GTTTTCGGCA CGGGCGTTAG CATGAAGTCT TTGCCGCTT 300  
 TGTACCAAGG CTTGAGGTCT GACTCTAGCG GGACCAACGA GGTTAGACGG AGTGCAACCG 360  
 GGACCGAGTC ATCCTGGCTC GCGTGTGCC AGAGACAATT TGAGGTCCA CGGAGCATCC 420  
 ACGCCCATGC AATCCTGCCC GTAAAAGTT GCACANITCA TCCACACTT GGGGGTINT 480  
 TATCAGNCCA NOCTGATCTG GTACGNAAA NTTTTCCMIN TTGTGTGAGG AAATCAGGTT 540  
 CCAATA 547

## (2) INFORMATION FOR SEQ ID NO:228:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 600 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1210UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:228:

GATCGAGAAG ATGCGGGCCC GCAACGAGGC CGCCACGCC GAGCGGGCG GCNACGAGCT 60  
 CCTGACGCCG GCGGAGCGCT ACGCGCTGGA GCAGGGGCAG GCGTCTCTGG CGCTGTGTGT 120  
 CCTGTGTGCG GAGCGGGCNC GCGCCCTGGC CGTGCCCTGC AACGAGCTTC CCGATGAATA 180  
 CTGCATCACC AAGACTGACT TCGACCGGCT CGCTAGCCAC GGCATCCCGG TCGAGGAGCT 240  
 CCACGAGGAC AGCAAGGACT GGTACTTCCA GTGCCCTGT GGAGTAGAGG AGGTTAGCCC 300



GGGCTAGAG AGCCCCGCGC TGCAGCAGGC CTTGGTCTGC TCGACCAAT GCTCCGCGT 360  
 GGCAGCAGCT GGGACTGCCA GCACCCCGCA GCGATTGAGC TTGCTGGCCN GCGGGCAAGA 420  
 CTCTCACTA TTTTGGCCCTC CMTGCCCCCT TGGCCTGCCC CAGCGGCGCG CCGCCCTCAG 480  
 GCGCGNGNCG GCGCGNAAAC CCTTACCAGA ACCAAANNA CACAGCCNCC GCGGCCCNTC 540  
 GGTGAAGCGA ACCCTTTTIN NCTCCTGTCT TCCNCCCTG AAAGACCTAN TTCTCCTTCA 600

## (2) INFORMATION FOR SEQ ID NO:229:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 539 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1211RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:229:

GATCTCTCC AGTAATGGCG TCAGAGCACA CTGGTAGGG ACCCTGCCA GGTAGTCAT 60  
 CGCCAAAAG ATAGCAAGCG TATGTACCCA CCAGCGAGCC GGGTGATAAG GAACTGGTA 120  
 CGCAGCAGC CATAGCTCTG GTGGCGCTGG GTTCAGGCC TCCCACTTGT ATAAATTGAG 180  
 CACGGAAGC CACACTTTAC CCACTACGG CGAGCCAATA GCACCCCCCA TCGGCAGCAG 240  
 GGTCTTCGC GCGCGCTGCA TCACGATGTG TTGCGGCTCC ATCCCTAAGA GCGGCAGCAG 300  
 AACGTAGTTC AGCGGGTGC CCATCGACAG TCGACTTGT CTTGGAATGC AATCCCCACC 360  
 CGCGTGCAC AGGTGTGCGG TGTTACCCAC GTTAGCGCAC TAGCTCCCGC CGCTGAGGCT 420  
 CAGGAATACC ACCCGGCCA CATGCATGC CACCACATAC CCATATCATN ACATCGGCC 480  
 CCTGTTCAC ACAGGAAANT GCCCNAACCT CCTCCTGCAG ANGGCCCAA CCGCCCCCG 539

## (2) INFORMATION FOR SEQ ID NO:230:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 593 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1211UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:230:

GATCTACATC ATGGGAGGCT AGGAAGAGCA AGGCACCGG TGCATTTGTA GACTACAGC 60

TATAATATGC AAATGGCCAA TACCTTTGCC CCGATCCAA AGAAGGGCAC TGTCAGCAT 120  
 ATGTTTATCG AGACGAGCTT CAACCACTTG GCTCTAGGCA TGGTCAGCCA GATATTTCCG 180  
 5 CACTAAACAA CGTCTAGAAA ATGACTTGAC CTATGACGTG CCGGGCTTGA CTCATCTTAC 240  
 TATCCTCAGG CCGGGCCCTC TTCTTGGGGA GCATGGCTCT AAACCCGTAA TAAGCCCTAC 300  
 CAACCTGAT ACAGGAACA TGCTTACCG CTGTTACACT TATAAGAAGA ATGTTATCCG 360  
 10 CACGCAATTT AATTGGCTTG CCCCAGTTTA AGAAGTTGG CCAACACTAA GTCACCCGAA 420  
 CTATCCCGGA AGGCTACCTA TCATTTACCC TGGAACTGGA TTGTTTGGCT ACTCANTCCC 480  
 CAGCTGAAA ATTGCCCCNA ATTGCGGCTC CAGAANCGT ATCCAACGGA ACTACTCGAC 540  
 15 CAAATCTAAT TTCCCCATA ATGTGAATTA CACTGTNAAT TCAGAANTGA ACN 593

## (2) INFORMATION FOR SEQ ID NO:231:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 536 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1212RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:231:

GAGATCTCC AGTACGTCIT CAAGCTGGGC TTGGCCGTC TAGGATAGAG CCGGCGAAC 60  
 TCAGGACTGG TCGAGAAGGG ATGCTGGATC CCGAAGCTCT TCATAAGCAA CAACCCCGGT 120  
 35 TGCCGGTGT AGTCATOGAA CCGTCCCTCA GCGAATCCTG CGAGTCTCCA CCTGACATCA 180  
 CCATTGCCCA CGATGCACCG AAGCGTTTCT GGAAGGAACA CGCAACTAG CAAGAAGCCG 240  
 ATGCCCGCCA TGATGCTAGT GAAACCAAAC AACCATCTCC AACGGTCATT ATCGAATAGG 300  
 40 ATCAAGCCAG CAATAATGGG CGCCCAAAT CCGGCCACN TTTAGGGCCC CAACATNAAT 360  
 TACGCAATG CCTTGGCGGG GTTTTTCGGN GGTGTGATT TNCCTTACCG TACGGGCCCC 420  
 TGAGAAAACG AGAATGNGA GGAATGCTG CCCCCCTNTT AAAAAATAC NCCATGNG 480  
 45 CAGCTGAAA GCANTTACNC TTGACTATAA ATCANCCCC GANAANNITA NACTCG 536

## (2) INFORMATION FOR SEQ ID NO:232:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 586 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1212UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:232:

5 GATCAGCAGT GTCTTCCGGG ACGTCAACGG CTTCACGGTC TTGCGTACCG TGGCCAGCGT 60  
 CCGCAGCCCA TGAAATGCCT GCACTGCGTG CCGCAGTCCA CAGTTGCGCA GCGATGCCAG 120  
 ACACGAAAAC ATCCTCGTTA ATGCAGCTTG GGTCTTCCG TCGTCACTGT GCGTCTCGAT 180  
 10 TAAGCCCAGG TTATCAGTAA CATCAAAATT TTACATAACT GCCACGTGAT ATACAGGTGA 240  
 TAAAGATCTA CACCCATGCC CCTGATTGT GTAAAAAGC AACTTTTGAA AAATTTTCTA 300  
 CGGTTCCATC CGATGAGATG AGCTTAGCCT AGTGCGAGTC CAATATCAGT GCACTAAGTT 360  
 15 TATCCAGTGA TACTTGTTCT CGAGCTTTCA GCAACAGCAT CAGTTTACAA ATCGCACCG 420  
 CAGTTATCCC TGAAAGAAA TCTTACGGTC CGAACTCCA TGATAGTTTG ATACGGCCCT 480  
 TACAGACGCC AGCGAAAATC CCACATCTCC NGNGGCTTC AAATNNNCTT CCGNGGTTCT 540  
 20 AAAGCTTAGG GGNATTCOCA TGCANGGGTT TATNAAATTT GANAAT 586

## (2) INFORMATION FOR SEQ ID NO:233:

## (i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 535 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

30 (A) ORGANISM: PAG1213RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:233:

35 GATCTTTTTT AGAGAGTTCA GTGTGGGAC CAACACGGTC GGAGGCCCTT CAGCTACTTC 60  
 CAGAAGGTGG TAAAGAGTCT CCAGTAGCCC CAGGGTGGCC TCGTGGTCAT AACAGTCCAT 120  
 40 CTGAGGTAGC GTGTTAATAA CCGCTTTTCA CATGCTCGTA GAGGACTTCT TTAAGTAGGC 180  
 AGAACTTATA AACTTAAATG TCTGTCTAT GCATTCAGG GTACGAAGAG CTGCCAGTGT 240  
 CCGAATGTCA TCAGCCGATC TGCTGTTTT ACTTTGCTCA GAATGGGGCC ATAGTTTAAC 300  
 45 TNCNGTCCC AAATTAACCC GGTTCCCGG GACCTTTTN AACAAAAAGG AAAAAAATT 360  
 CCGTTTCCCC CCNCTNCCC NNNNIGGGN AAAAATTTTT TNCNCGGGN AAAATTTANC 420  
 CCCCCNCTT AAGNCCCATT AAAAAAAN NNNNNTTTT TTTTTTTINT NGNGCCCN 480  
 50 NAAAAANNIN CCCCNNITIN NAAAAANGG NGGNTINNG NNNNANANN NANNIN 535

## (2) INFORMATION FOR SEQ ID NO:234:

## (i) SEQUENCE CHARACTERISTICS:

55 (A) LENGTH: 603 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1213UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:234:

GATCGCCAC TTCACGAAC CCAGCTCCGC AGGCGGAAAC GTCTGTGACA GCTCCGCTTC 60  
 GCGCGACGCC CCGACGTTC CATAACGTA GAAGCGCCCG CCTTCGCGC CTGCTGTCTC 120  
 CCCCCTGTAC CCGCGCCCA GCGGTGAGT CACCGCTTC ACCTGGTACC CCAGCCCGCG 180  
 CAACCGCAGC TTCATCTCG TTACGTATGT CCCAGCTCT CCCCCTGCG CCGCCAGCGC 240  
 GCCCAGGCAC TGTGCGACA CTGTCTGTG CACCGCCCC CCGCCCGCA GGATGCACTG 300  
 CAGCAGCAGC CCGGTCTAT CGTCGGCGT CGTCTCGTC ATTGCTCTCC TCGCCCCCG 360  
 ATGCACGCA ATCCGCTCT GAATGCTTT GCGCTGCCC GCGTTGCGT GTCTGGGGTT 420  
 GATTGCCAGC AATGCTGAC CAACTGACA CATTTTGCA AAAGAAAGC CAATGTCTCT 480  
 CGAACGAAT TCGGCTCTC GTTGAATAA CCGCGCGCC CAGTTGGGTG AAGCGCTGC 540  
 TGTTCACAC TATCCGTAG GGTCAGCCT TCGTGTGTT CCACTANTGG NAAACNCTG 600  
 CTT 603

(2) INFORMATION FOR SEQ ID NO:235:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 527 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1214RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:235:

GATCGTTCAC GTCAGCAAT TCTGTGTGT AGCCCACTAC ATTGTAGAGC TTATAGATTA 60  
 AACCTCGAAT GCAATCATG GGGTAAGCA CAGCTCTGT AGTCTGCTA TAGCAGAACT 120  
 TTTCATCTTC AAGGTATGT CTGAAGGCG GCTTTAAGGA ACCCTTCATC GAAGTACTGG 180  
 GTCTTTCTAC CCTCCGCGG GAGCAGGATG TTAGCCGAG CTCTGAATC AAATCTTTC 240  
 ACTTCAAACT CTGTGTGTG ACCGAAGCA ACTTTAGCTG CGCTTCAGG TTTGTCTTC 300  
 TTAATGCCAG AACTGTGGG CGGTGATGT AGGAATTTTC TCCATCTGG GTTAAGTTTC 360  
 TTCCATATCN ATTGACACTG CAGCCCCAA CATTGNAATT TCCANANCC CTACCCCCC 420

NANATGTTAA TTTTTCNGGT TTAAAGGACT TATCNNOOCT NTCATTTTTT CTINAATNAA 480  
CTCCATTGTG CCNNAAGNAA CAATTNAATT CCOCTGTTC TTCCCNAA 527

(2) INFORMATION FOR SEQ ID NO:236:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 597 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1214UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:236:

GATCAAGACC TGACGGCTTC CTAAAAATGC TAAGTTTAGT ACATAAATTG CGCAAGAAT 60  
TACCCAAATC ACCTGCTGTG GAGATACGAG GCAAGCTGAG CCGGTGGATG TGCCCATTC 120  
ACACCACTAA CTCTTTGGTG TGTGGCTGTC ATGGTACTGC TCGCTACCGC CGTGTTCAOG 180  
GCCTTGCTTA ACGGGAAGCG ATGCCGGTAA AGCCAAATCA TGTAACACCC AGCGATAAGT 240  
CCACGACGAG ATGCTGAGAG GCTCGACCAG AACGACGTCG CATGGGTGAT GCTACAGATG 300  
CCTATCGGTG TGACAGGTG AAGCAACTGT GTTCTGCTTC AAGTAATAGC CAAACTTGGC 360  
GCGGTAGAGA ATGACACTGC GGIGTCTGTG CATATGTGG CACTATGCAA GGTACAGAT 420  
TCGCAAGCTG CCGGAATGTT GGCCCAAATT CGAACAACCA GCCAGCTATT GETATGGAAT 480  
TATATACAAC TTGGTNGGG AGGAATTCCG GTGAAAAACG GCGCACCAGG NAACTTTACT 540  
GGAACGGGAA NCGGGNAATT TCCCCCCCNC CCGGGTTTTT TGGAACCGGC CCCNTTG 597

(2) INFORMATION FOR SEQ ID NO:237:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1215RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:237:

GATCAGAGCA AAGTGATCA AAGGATTTT GGACGAAGCG TAAGCTGCA CCGCAGGATG 60  
GCCCATCTGA CTGAGCCCG AGGTTACGC AATGAAAGCG CCTCGGACT TACGTAGCAG 120  
TGGAAAGGCC TTGCTGGCA GATTCAGAC GCTAAACAGA TTAATCTGA ATAGGOSTCT 180  
CCATTCCTTG ATGTCCGCT CCGGATGCG TTGTTGGTAC GAGACACCG CGTTCGCTAC 240

GACAGCGTCT AGCGCGCCAT ACTCGGAGGA CAGCTTATCG ATCAGGGGCT GCACCAACAG 300  
 CTGTCAGTTC AGCTCTCGCA CAACATAGTC GAATTTCTTG CCATGTCTCG CTTTCAGCTC 360  
 5 CTGCAATTTC GTTTCGCCCC GTGCAACCCC TACTACAACC ACGTCGGGGG TTGAGCACAA 420  
 TCTGTCAACG GTTGCCGCGC CAATGCCACG CGATGCACCT GTCACAATTA TAACCTTCAT 480  
 TCTTGCTTTG TACTTTATCT TCAATGGGCC ACGAACGCTC CCGCTGTTAG TTTATATATG 540  
 10 ACTTCAGGGG CTGTTGGCAC AGCTCACTAG CACACTACCC TTCACATGTC ACACCACTTC 600  
 GAGAATGAAT GGCACAGTTC CATTTGTAAT CATGATTATC AATACAATAT GTGTGTGAAT 660  
 TATTGATTTC TAATATGCAT AATATAGATG GTTATGATTT GTAATACAGT AAATATACGG 720  
 15 TAAATATAAA GTATTTTAAG GAATATTTAT AATT 754

## (2) INFORMATION FOR SEQ ID NO:238:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 776 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1215UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:238:

GATGCCCCGG GGCTACGTC ACTGCAGATT GCGGCAAGCC AGGAACAAGA CGGACACTAA 60  
 GTCATTCTGT TTATGTAGAT TGGGTGCGCA GCAGCGCAGG CCGCGCGGCT GATCTAGCCG 120  
 35 TACCGCACCA ACGCGGGGAC GCATCGGGG CCGCGCGGCT AAACCACGAC CGTCTGTCCC 180  
 GGTGCCAATG GACCGCGGG TCATCCACCC CGCTCAGCCG GAATGTAGAC CAAAAAAGA 240  
 GTGTGGTTCC AGCTCTCAA TTGGGCTGGT CTCAGGGGT CCGGGCCCCG CAATCGCCTA 300  
 40 TATAAACGGA CAGCGGAGAC AGTCGCTGCA CTGTGAGGA CAGGCACACC GATGGTGAGG 360  
 GTTATCATTC TGACAGGCGC GTCGCGCGC ATCGGTGAGG CAACCGTTGA AAAGTTGTGC 420  
 ACAGCCCCCG ACGTTGTGGT GGTGGGAGTT GCGCGGGCGG AAAAGACTTG AAGGTGCTGA 480  
 45 AAGAGAGATA TGGCAGTAA TTCGACTACG TTGCTGGAGA CGTCACCGAT GAAACCGTGG 540  
 TGCAGGCGGT GCTGACAAG GTGTCTCGG ATTATGGGCG GCTAGACGCC ATCATAGCGA 600  
 ACGCAGCGGT CTCGCGCTTC GAAAGCATCG CCGAGGCAGA CATCCAGCAG TGGAGCGCA 660  
 50 CGTTTGAGAT CAATTGTTTA GCGCGTAAG CCTGGTGAGC AAGCGGCTCC GATGCTAAG 720  
 AATCCACGGG TTAAGGTGAN TGTGTTACC TUNINGANCA ACNAGGTAGN TANCAG 776

## (2) INFORMATION FOR SEQ ID NO:239:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 546 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1216RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:239:

GATCAAGTCT	TTTATCACTA	CAAAATGAGCA	GCGCTTAAAT	TTCCAGAATC	GTTTACAGCT	60
GGGTACGCTT	GCAAGCAAAT	TIGGCCCTTT	TGAGCTAGCG	GAGGAACAGT	TGGCTCAGCG	120
CAAGCGCCTC	ATGCGGCTA	CAGAGCGCG	CGAGCTTTAC	ATGTATTACA	AATCTCTCAG	180
CGGTTCTAT	TCCTTAGCCA	AAATGCGAC	CTGCTTAATA	GATACTCTGC	GTGCCTTTAA	240
TAACGAGCGG	CACTCGTCCC	TCCGTAACAC	ACTACTGGCT	GCGCTCTATC	CGAACACATA	300
TCCACTGGCT	CCGCCGCAAT	AATGCAGAAG	AAGAGGTCCA	TAGATGAGCT	GAACCAGCCA	360
GCGCCANCAG	AATGTACTCC	CACCTATGCG	AACTCCNANA	NTGGAAGGCC	CTGCATACAT	420
TTCCGGTCCC	ACCACTTCT	GCGTTCCCTG	GCTTACCACT	CTGTGAACC	GAATNGTGG	480
GCATGCCCTG	CCCAAAAACC	CCTGGAAATC	CATAAATACC	TGCGGGGGT	TANCTGGCT	540
CCCCCG						546

(2) INFORMATION FOR SEQ ID NO:240:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 593 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1216UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:240:

GATCTGTGAA	TATATGCTTG	GGGTGATG	GTITGCCAGT	GCTATAGAGA	GCGGTCAACG	60
GCGTACGCAC	GGCAACTCTT	CGAGTTGTCA	GCCCAAGTAG	CCTGATCATA	TACAGGTGAT	120
GGATGGCTCC	TGTATACCTT	CCCACACTGC	AAGCCCCCTGA	GTGCTCAGG	TGTTACTGCG	180
GCAGATGGTC	ACATGCTTC	GGAGTATATA	GTCTGGGCTT	TGAGCCACTT	AAAAGGGGCT	240
CGCGCGCTAG	CCCGGCGCG	TGGTCAAGTG	ATTGCCATCT	GCCCCGAACG	GAAACGTAAC	300
AGGCGGTGT	AACGTGGTCC	TCATCCGTCA	GCAGGCGGCT	CTCCCAATGT	ACTTCGCATA	360
TGTTATTTTA	CGTTTATGTT	ACCTATCGAG	GGTGGCTCAG	GGTTATGCC	GCGGTGCTGC	420

CCTGCCACGG AACCCCGCAGC CTGCAANCOCT CCTAATTGC CCATGGTGAA TTGAACTCNC 480  
 AAGCTTATAT CTCCTTGCCT GATCCCCCAT NATGCATTG AAGTTCCCA NAGGACAAGA 540  
 5 AACANACNCA AAAAAACNAA TGGTTAAGTA AAATTGATTT GGTTGTCCCN CCT 593

## (2) INFORMATION FOR SEQ ID NO:241:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 592 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1217UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:241:

GATCTCGTTT CTGGGATTT TTATTGGTT GGAAGAGGAC CTGGGCCCTA CACCACTGAA 60  
 GTGTGGGAG TTCTCCAGTT GAGGCTATT GAAGTCATA TCTGATGATA GAGCGCTCAA 120  
 ATGTTCTGAT COTGACATCG AATAGAGCGC ATTTTCTGT ATCGTAGCCG CTGGGTCTC 180  
 GCGTGGGATA TCTTTGATGT TTGGAGTGGT GTTGTGCATC ATGTACACCA TATTGATGT 240  
 AATCGTTGA ATACCATGAG GAAGTGGACT CATTGATTG GCTGGTGGCT GCGGATGTGT 300  
 TACCATTGGC GTAGAGGTEA GAAAATTGGT GAGTTTGGCA AAGGAAGAGC TGGCTGGCTA 360  
 GCAGAATGAT GGACTGGCGT TCAAGCGCCA TGTTTONTCC TTTOGAGGTT AAAAATTAGG 420  
 AAGGGGACAA GGACTCCCCCT GAATCTACT ANCCCCTTCT AAAACTTGGC AATATTGGTC 480  
 CCTGAACAG ATGNCNCCNC CACATCCCCC TATTAAATTT TTTAACAACC ATATTGTGG 540  
 35 ANACCTNGAA MITGAAGTTG CCGCNAANN GATTCCCCIN COTCCCCAGA TN 592

## (2) INFORMATION FOR SEQ ID NO:242:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 558 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1218RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:242:

GATCTTTGTG GGCCACGAG ACCACCGAG TACCGCCCGT GGCTTGGAGC TACCACTGAA 60  
 AAATGTTCTG CATGAATCCC ACCTTGATAA TACCCATGGA CCACTGGAAG TTCTGGGACC 120  
 55 ACGCAGCAGC GATGGGTGGC ACACGAGCCA CTCACATCAT AGACGTGATC GCCAAATTTT 180



GGAAGTACGA GAAAAGAGAG ATCGAGTTTCG AAGCGATGTG CCGGOCAGTG GTTGAGTGGC 240  
 5 CCATCACAGA CACAAACCCG GAAGTCCAGG ACACCCACAC CAGCTATCGC GCGGAATCGG 300  
 CCACGAATGC ATACTTCGTC TGCACCGTCT TCGCGTGGCG ACAGCACCCG CCTTGCACAA 360  
 CAGGCCCAAT GGATGCTCCG TACTGGTGTG TCAGCTTTCC GCNAAGGCCT TTACCCATC 420  
 10 CGTCTTCCC AGTCCCNCG AAAATATACC CCCCCTTGGT ATCTTCCNT GAAAAATCAC 480  
 CGCCGAAAT TCCAGTTGA ANCTCTTTG ATTCCCCC CTTGCCCTCC CCGAGNCCG 540  
 GANATTCACA ACNAATNC 558

(2) INFORMATION FOR SEQ ID NO:243:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 604 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1218UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:243:

GATCCACAGT TTCGCACTG AACTTACTAT CCTCAGCAA CCGCAGGTCA TGTCAAGCG 60  
 30 TTGTGACATC AGCCTTACC CCGTAGCTCA TAATGCTGG GACGGATGCC TTGTGAGAGT 120  
 AACACCAAAA AAGGCATGTT GGATCAGCTG CATAAGCTAG TAAAAAGAG CAGACGCCGC 180  
 CTGAGCCACT AAAGGCAACG ACCCGCAAT ATATGATAAA TAGAGAATAT AGAATGTTGC 240  
 35 CACTAGGCCA AGATGACCTG CATTGAGATC CAGCGACAAA GTGCCAGGAA TTAAGGGATC 300  
 TTCAACATTC CTGATCATAT GAGAAGAGCA ATACAGGGTT AAAACGGCGG CGTTTAAAT 360  
 TTCACAGACT CAATCAAATG TTTCACAATA CCTGGTTTGG ACAAGTCCGA GACATCCCCC 420  
 40 TAACTGATCT GCTCCCCCA GCCAAGGATT TTGGGOCATA TACGGGCCAT ATTTTGCTTG 480  
 ACGATTCTTT TGCATTCCTC CCGAACCAC AAANACTTA GGGGCACNAA CCGCCCCATT 540  
 CCNANNGAA AAAAAAATA GGTGCTTTGN ATNKCOCNA CCCCCCCCCC CCCCNTTTC 600  
 45 CCG 604

(2) INFORMATION FOR SEQ ID NO:244:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 550 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1219RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:244:

5 GATCTTGATA TTGTACCGGC TCATAAATAC TTGGGATATC TTGGGACAAT GTATCGTACC 60  
 CGATACCTTT CAGCACATGG ATCAGTATAT CATGCTTCTT CCTAAATGCA GCAACAGTAT 120  
 10 TGAGGACTTC CTTCAGACTG TCCGTCTGAG TATCTATCTT CATAAAGATG AACTTTTCGG 180  
 ACCTCTTCTT CATCAGCTCT CTGATGAGTG ACGTTGAATT CTTTTAATAG CGCTTCCAC 240  
 TGSTTTGATA ATCTTGATAC AGTGTCCAT AGTCTCCCT GGAAAGAAAT GAAGTCGGAA 300  
 15 GAAATCAGTT TTGGCAGCAC TCTCTCAGTT TCTGATTCAA CTCCGTTAG ATATTCTCTC 360  
 CCACAAATGT TTACGGCCCT ACAGTTGGTT TCTTTTGANA CCTTCACATC CNTCCNAAGC 420  
 CATGAAAATG ANTCCATNC CCCCCCCCCA CTTTGTINAA NTTCCTATTC GCAAATTNKN 480  
 20 CAGTTGAATT CCCCCANCG GGTGTTCOC GGTTCOCOC NAAAAANAC NGAGGGGGT 540  
 TTTAAAAAN 550

(2) INFORMATION FOR SEQ ID NO:245:

- 25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 598 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1219UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:245:

35 GATCGCGGGG CTGCGCGCGG CGTGGGAGTG GCGCCACGTG GCGCGGCCCT TTTGGCCAAA 60  
 40 TCCAGCGGT GCGCGGCTTT CGAGCTGCTT GACCTTCCGC GGCATGTCAA AGTGGGGGT 120  
 TAGTTTGGTC CTGTAGGCGA ACTGTAGCGG CGATCCGACC GTCTGCGCGA CGGTGGGGAG 180  
 CAGGCCCTCG GCGAGCAGCT GGGGAGCAAA GAACTTGAA CATTGTGACA CGGTTCGCTG 240  
 45 TTTGAGCTGC AGCTGCTGGT CATACGTCAG GAACTGATAC TGCCAACCGG AGCACTTCCC 300  
 GAAGTACTTG CAGTTGATGA GGTGCTGGTG GGCATTTC ACGAGGTCT GCACTCCAG 360  
 CAGAGACGCT TGGCGTAGT GCGGTGTGTC TTGTGCACTT GGATGGTGAC CAGTTCGCC 420  
 50 TGCCAGCCC AAATTGGCAC CCAGCACTAC TGTTCCTTG TTTGCTATCC TCCCGGGCTG 480  
 TCAACAANA CCCATCCCTC CCCATCCACT TTACNCCAC ACATCACTTT CATCAGNCC 540  
 GGTGTGCTT CTGCTGCATC GCGCCCGAA TTTNTCAGA ATGATTACTC CTCNNG 598

(2) INFORMATION FOR SEQ ID NO:246:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1220RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:246:

GATGGGCGAG TTGTGGCCCT CAGCCAGCCG CTTTTGGGC ACGGGGGGA GGTGTCCAT 60  
 GTACCCGTG GGCAGCCCC GTGGCCCTC GCGATCAGC TGCAAGTCT GCTGTAGCTC 120  
 CTCGGCATC AGTCTCAGA TCACATTAG TAGCGGGTG CTGTCCCAT CTGCTCTTG 180  
 GAACATGTCA GCCAGCTGCC TGCGAAGTTC GGACCGTGC CCTGTGTGT CTGTGAGAGT 240  
 TAGTATTCTT GCGCGAGTC GGTCGCACAT TGGCATCACT TACTATTGTC GCTGGGCATT 300  
 CACCTCCCTG GATCACTGTT GCTCCCGTG GCGTAAGGG GCAACAGACA GCGTTTTTTT 360  
 ATTTCTCTCT ATAATACGCT GCTCTATGTA GCGTATACTA TACAAGTCTT AACTAAGGTG 420  
 AAGTGAGAAG TCATTATTTA GCTGGGTTTC GCGCGTCAT GCAGCCGCT ACCATAATTAG 480  
 CATCCCGCTG GCGTGAAGG CTTTGGAGGT GGGGGAATTG TTGATGCCCA ACGACCTTAT 540  
 GGAGTTCAAC CTCACGGAGA GGTTTCGAG ATCGAAAATG TCACTTTGGG CAAATTGCGA 600  
 CACACCGTAA TACTCGGCAA ACGAGTTCTC GACACCGCTG AGCTGTGTGT CGAGTGTCTC 660  
 GACATAGGAC AGAAGAGGCT TGGTGGGGC TGGGGGGGC GCGGCGCAA CCGGAAGNGC 720  
 CCCCCANAG CTGGGGCCNG GCGGCCC 747

## (2) INFORMATION FOR SEQ ID NO:247:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 777 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1220UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:247:

GATCAGAAT ACTGTGCGA CCACTTCTTG AACCGCGGT ACAGCGCGG GTCCGTGCG 60  
 TCAGCGCGG CCTGTGCGC CGGTGGAAC AGCGCGCGT CCTCTCTGA CAGGTAGCTT 120  
 GCGTCAGT CCGAGCCGCC GCGAACCAC CAGTCTGCG GCTTGCCGC CGGTGCCAC 180  
 GTCTCAAAGT ACGGTAGTT GAGGTGCAC GTGGCGCGT GGGGTTTAC GGGGTGCATC 240

ACCAGAGAAA TGCCGCAGGC GAAGAAGCGC ACGCCGGCCG CCGGCTGCCC GGTACCGGG 300  
 TCCGTGGGGA GGTGCAGGTT TTTGTGCTCG GCCCGCATGG CACTGACGGC TGCCGGCGAC 360  
 5 AGCTCGCCGT GGACTACCGA GACGTTAAGC CCGGCTTTT CGAAGGTGGT GCGTGCTGC 420  
 AGCAGCGCAG ACGTGCGGCC GCCACCTCC TTGGCTCCC AGGAGTCGGC CTTGAACCTG 480  
 ACCGTGTGGA TCGCTCGAA CCGGCTGTA ATCTCGGCT GCTTCGGCG CACGAGCTCT 540  
 10 TCATCGGCT CCGGCATGTG GGGGCTGTG GGGATGCCA TTGCTGGGGC GCCGCAAGAG 600  
 GCGAAATNAN CNGTGGCCCC GCGGCTTAT ATAAAAGCGT GGCACGGTG TTTTGGCCAC 660  
 GNCACCANGG GCTGCAACG TCCGCGCCAA NANANCCAGG GTCCCGGCCA NAACACNTCG 720  
 15 GCGGCGGGCC NAACGCGCC NNCACAATC ACNCCGACAA TCGCGCNGG GGATTCC 777

## (2) INFORMATION FOR SEQ ID NO:248:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 537 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1221RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:248:

GATCTCTGCT GTTTGGGCTT GCAAGCATCT TCTTCGCTAA CTCGTTCGGC GTTTACGTTT 60  
 GAGGTTGCGG GGACGTATGC TANACCGAGG GCATTGCGGG GTTGAGGGGA AGAGGTTGAG 120  
 35 ATTATGAATG ATATATACTG TTATACCGGC TGCGGCTGGC TGTGCGGCTC ATCAGAGGG 180  
 ACTTACAAGT TCAAAAGGTC TTCATCGATA TTTACCAACT TGTAATAACG CTCCTGTGAG 240  
 TCTGAGTTGG AGGAGCGGG CTGGTCGCCA TACTCCATCA ACGTGTTTAC CATTGCGGCT 300  
 40 GTATAGCTGA TCAGGTTTTC GAGGGATGAC TCGCTCTCT OCTTTAGGAA CATCAAAATG 360  
 GTGGTGTTC ACAANCGGA AAACCTATCC TGTTAGTNN GAAGGTTGA GAACACCGCT 420  
 AATCCCTTAG GCACTCCACC ATGGTTTTAT CCGTACCCCA TTACCCAAAT TTCCCCAAG 480  
 45 TGCCCTTNA CTTTGNCGAA CCCCCGNA ATNCCGTTT TTAAACCCN AAAAANG 537

## (2) INFORMATION FOR SEQ ID NO:249:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 584 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1221UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:249:

5 GATGACCCCT ATCAAGCCCT TGCAGGCTGC TATGGAGGCC TATCAGGTCA CCACTATGGA 60  
 CCAGTCCGCC AGCTACGCC AGGTTTITGT CACCAACCACC GGCTGCAGAN ACATCATCAA 120  
 10 GAAGGAGCAC TTCTTGGCCA TGCTGAGGA CCCCATTGTG TGCAACATCG GCCACTTCCA 180  
 CATCGAGATC GAGTGGCCCT GGCTAAAGGC CAACGCCGTC GAGCCGTCAC ACATTAAAGC 240  
 ACAAGTCGAC CGCTACTTGC TTCTCTCCGG CAGACACGTC ATCTCTCTTG CCGATGGTTA 300  
 15 GACTAGTCAA CCTAAGCTGT GCCACTGGCC ACTCTCCGT TTGTCACTGC TTGCTCTTTC 360  
 TCCAAACAGT CTTTGGCACA GATGGTCTCN TTCAAGGGCA ATNAAAAGGC CTTCAAANAA 420  
 ATTNNITNNI TCCCCAAAAA ACGGCCNCA AANCGGGNIT CATTTCNNC CNAAAATTGN 480  
 20 AAAGCGGCNC CCATTTCGCC CTAAATTGG GTTNNITTT AAAACATTC CCCCCCCCA 540  
 TTTCGGGGIT CCAAAAAGG TTTTNGGGG NCCCTTAAAT NITA 584

(2) INFORMATION FOR SEQ ID NO:250:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 535 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1222RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:250:

35 GATCGAATAA TAAAGTGGC TAATACTTGG TAATAATATA ATAGAAAGGG AAATAGAAGA 60  
 GAAGTCAAT GGGAAATAGT CAACGGCGTA CTAGGTGAGT GTTCAGTTC ATGGAATCGT 120  
 40 AGTCAGAGAG GTTATCAAA AACGGCAGTC GTCTGATGAT AGCAGTATCA CGAAGTCTC 180  
 ATGCGCCCTG CATACAATGS CAGGCTCAGC GCAGGATCAA ATGGATAGCA GCGGGCGTAC 240  
 CCGGAGACGG ACTCAGTGGG TGGAGTGGCC CCGGTGGTAC TTGAGGCGGT TGAGGTCTT 300  
 45 GTAAAGTTTG CCACAGACCT CCGACCGGTA AGGCTTGTC TTCTCGAACC CATGCCCGTC 360  
 TGGATAGGCC TGGTGGACT CCGGGTCCAT GATGCTAAA GTGCCCGTCT GGGTTTTCAT 420  
 50 GAAGCTTTTG ATTCTGGTGG CCGTGGTTTT ATGGTACTTG AGTCCCGTTT GATCCTGGTT 480  
 AGTCTTATCG CAGCCCATGA GGGACNNITG AAGGCTTNTC CCCNCTTGT CCNEN 535

(2) INFORMATION FOR SEQ ID NO:251:

55 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 581 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1222UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:251:

```

GATCTGGCTC AGACCGTCAC CCACGTTGTC TGCAAGGGGC TCGCCCGCTT TANTGCTTG      60
CCACGCTTTG GAGCAGCGTA GCTGCACGCC AAACCCGGGC AGCTCCGAGC AGTCCGCTTT      120
GGGCAGCGGC CACTCCGAGT TGGTGCCCTG GATCAGGGGC ACAGCGAGCG CCATCTCACT      180
GTACGTCACG TCGGGGCCCC ATTGGGGCAT CAGGCGCCCG AACGGCAGGT TCCCGACGGT      240
GGTCAGCGGA GAAACGATCT TCTTGTGATG CAGGTCCAGC GCGTTCTTCT CCTGTGCAAA      300
GTAGCGTGTG TGGTGACTCT GGGCGTACAG CTCGGGCTGC CGGGCGGCGT TGTGTGTCAA      360
TTGCTCTCTC CGCTGCTGCA CCTGGGGCAC CTCGTGGAGC GCGGCTCCGG GCGCGCGCGG      420
GCCCCCTGCA TCTGTGCGCC GGAAGTCTTG CTGGATGGCG TCAAAATTCG ACNATTTCTC      480
CCTGCNCGGG AAGGGCCCCA NTTTTCCCCA ATNANCNCA ATGAACCATT GVINCCCCCN      540
TGGTTCNAAA ACNATTTTTC CCCCCCCCCG AGATNTTCCC A                          581

```

(2) INFORMATION FOR SEQ ID NO:252:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 544 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1223RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:252:

```

GATCGGTTTT CACCTCAATT CGTTTCTGGT CCGCAGTTG GTGATGCTGC TGATGCTGAA      60
GCTGTAAATTG CTGTTTCTGC TGAGCAAACT GCTGCTGCTG TTTCATCCAG GGATTCTCCG      120
GAGGAGCTGA GTCCGGTTTG CCGCGTCTCT GCTTGTGGTT CAACAAGTTG TTATATACT      180
GGTTCATACC TTGGGAGGTC AGGAAGTAC TGACATTGCG GTCCGCTTC GGTGGTCTA      240
GCAAAACGAG CATGGCTCTC CTCCTCTGTA GAGTTTCTTT TCGCGCATC TCAAACCTTC      300
TAGATTCCAT TATCAGCGCT TCTTCTCAG CAACTCTAGC CGCGACCTC GAAAGCAGCC      360
TCGTCAAAT ACTTCTTCCG CTGATTTTCC CTGGTCTTTG GAATACGCTA GGATGGTAGT      420
AGCGGTTTCC CCGGTCTTT CCGCTGAAA TTATTTTGG CATACGNGGT TAAAAATCTC      480

```

CCCGTANTTC CTCCAACGGT CCTNNANNCG NONTAAANAN ACNGGTCTNGT AAATNATAGC 540  
NNCC 544

(2) INFORMATION FOR SEQ ID NO:253:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 608 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1223UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:253:

GATCGCGCGC TTGAACATGG ACGTGGACAC GGCGAAGTGG CGCTGGAGOG CGCGCACCGC 60  
TGCGTCTGAG AGCTCTGTGT GTGCCATGCT GCGCTCTGTC TTGAGCTGGC GCACACCGCG 120  
GGCGGATATG GCGTGGACCC TACTGGCGGC GAGGACATCT GGTAGCGCGG CCGCCTGCTC 180  
GGACTTGACC ACGACAGTGG CGACGCGGAC CTTGCTGGTC GGCGCGGTGA ACGCGGTGTT 240  
GACTGCAAAG TGGTCCGAGG GCGCGATGCT GCGCGGAGGG AGGGGTTTTG GTGAGGATGC 300  
GTGTGCGCGG CGCGACCGCG ACGGAGATGA GCTGCGCTG CAGCTCGGCA TCTGGATTGC 360  
GGTCAGGTCC TGAATCTGCT CGTGGTTCAG TTCTGCGTAG TCTCCGAAA AACAGGAAAA 420  
ATGGTTGGCG GCATNGTICA ACATCCTTGG CCGCTGGGT TAAAAATGGC CGAACTGGNN 480  
GCGATTTC CCGAGAACCC ATTTGTGTTAT CCGCTTCT TCTGNNNCC GATTTTTTTG 540  
CAAAANINAA AACCCCCCT AAGAAGANN CGGGGNGCC CCNCGGGGN TTTTTTTTTT 600  
CNCCCCCA 608

(2) INFORMATION FOR SEQ ID NO:254:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 731 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1224RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:254:

GATCAGTAAC AACCATAGCA GCGCACCTA CGAAAGCAIT CGATACATTT TTAATAAATT 60  
CGACAGCAGG TAGTAGTCTT CTTCGGATT GCTTTACAGG CTCGCTAAAG ATGTGTTCGT 120

AGCTCTTCCA AAGAGAAATT TGTGTAACCT CAGAGTCAGC AGCGGACTCA AAACAGCAAC 180  
 TCAACCAAGC GGTGACCGC ATAGGTTTAT TCAAGCCCAA TAGTTTITGG AATAGATCAG 240  
 5 GGGGAAGAGT TGGAAACATC GTACGGGGTC TCGTTTITAC TCGCCTAACT AGTTTITATCT 300  
 CTACTTTTGA AAGATAGTCG TAGTCGGGAA GCTCAACATT GTAAGTCAAC AAGCTAGGCA 360  
 AAAGTGTAGT CAAGATTGAG TTCCGCTCAG GGTTTTGACA ACAGAGTAGT TATTCTCTCA 420  
 10 CTCCCCAGGC AAGATGTACT GGTATAGAAA ATCCAGTTGA AGCCATAACC AGCTCGTTGT 480  
 CACAGTCCAC CAGAAGATAG GANACATCAG GTTGAAGAAT TCTCATCTA GGTATCTG 540  
 TCGCTTTCTT GTTCTGCTTT GGACCAACCC ACAACCCNAA AACCAACCCN AATCAAANA 600  
 15 CCGGTTCTCT TCTTGTCTCC CCCCNAATGA AANAGGTTTT GAAANGGTIN TCCCTCTTGC 660  
 CCGGCCAANT AAAAAAAGG CCGNCAGGNT CNACNATATT ANCANCCCC NAAAAAGGCC 720  
 TTCTGNTCTA A 731

## (2) INFORMATION FOR SEQ ID NO:255:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 762 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1224UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:255:

35 GATCGGGTGC GGCACATGCC TCATCGGGCA GGTGGGGTGG CGGAGGCATA AACCCACCCC 60  
 TGGTTGTTCG AGTGAATAGG TATGGGTACA GCTTTGGCGG CCACGANTGT GCGGAGACGT 120  
 TTACGCTGCC AGAGGGACCC GACCGCACCG GTGGACTGTT GCGTTGGTTC GACGCTCCAG 180  
 40 GGTTAGGAGC CGGGGCGCTG CGGAGCACAT GATGTCGAGC TGTGCATTCG TCCAGGTGCG 240  
 CACTAACCAT GCCAAGGGCA TCGGGCCAAG GCGGATGGGG CTGGACGGCG CCAGGGCGGG 300  
 ACGACTATCA CTAAGAAATC ATCGATTAAA ATATAAACTA CATAAAGTAA AGGGCGGACT 360  
 45 GAGTGCACTC TCAGCGCACT AGCAGCGAGT AGCGTAGTGT GAACCACTTC CNTGCGATCC 420  
 GTGGCACGAA GCGGAAGTAA CCGGAACCTC GATAGTTCAG AACGAGAAC CGAAAAAGCC 480  
 TTAAATGGC TTCACNCTA GGTCCCCCAA CNGGTCTTCC TGTITGGAAT TAGGGTGGGC 540  
 50 GGAAACCCAA ACTGCCCAAT TGTINTCCAA TTCCCCGGNG GCUCCAATTT NAATTTCCAA 600  
 ACCNATCNEN ATCTCGGCTG NATCCCCCCC NPTGCCCCCC TCAATGGCCC CGAACCTTTT 660  
 MTGNCCCCC CCAAGGGCC CTGNGNATT TTTTCCCG CCGNCCGNT TINTTAAAA 720  
 55 NAAAGGNGCA TTTTCAATT CCGNGGAC NCTTTTTTGT TT 762



## (2) INFORMATION FOR SEQ ID NO:256:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1225RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:256:

GATCCTTTTC TTCTCTTC CCTCCTCGA GGATTCCTT TTTGAGCTTG CCCACTGGCC 60  
 CCAACCCACC GCCTATGACA CTAGTACCGG CGGACAGACC AGCGGATAAG CCCTTATTTG 120  
 CAAATCGCC AACCTTTGTC TCCACCTTGG TAACAGAGAC AGTGTACCTA GGAGAAAATT 180  
 TGAAGTICAA GTAAAGAATA CCACCGTCCT CGCGGTTAGG ACCAGTTAGC TGGACTTCCA 240  
 TTGGGGTTTC ACTGTCTGG TCCACCTCAG CTAGAGGAT GGTTCGGGTG CCAATGAGAT 300  
 CGTCACTGTT TCGGGCATCC CAGTCCATGA CCTTGATGG CAGGTAGTTG TTAATCCGGT 360  
 TATTCAACTG CAGGGATGTG TTCTGGTTCC AAACAGGTTT AAGGCTCTTC TTCTGGGTTC 420  
 TTGGTCTTGT ATATTACCTC ATCTGAATTG TCGAGGTTAG AATTGTACAT AAGGTCCGAC 480  
 TTGCCGTTC CGTACGAGG TAGAGCTGA CTGCATTTAG AACCTCCAGT GTTAGGTGCG 540  
 AGTGTTCGTA TCAGTTTCT TGTGTCATCT CTTACCCAAA AAGGAACCAC AACCGTTANN 600  
 TCCTTTTNG ACCCAACCTT NITTACAANN AGGTTTAAAT TACANITTON ATTINITTGN 660  
 TGAANGAAC CCNNAAGNT CCNCTGTTT TACTGANT NTTCOCNAAT 710

## (2) INFORMATION FOR SEQ ID NO:257:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 750 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1225UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:257:

GATCCTACTG GAACCAACCA CTCAGGAGCA GGTAAAAA CCAGCCAAAG TAAAGACAGA 60  
 GACAAAGTA AGCATCCAA AGCAGACCCC TACTCCAAAG TCTAAGTGG CTTCAGCTTC 120  
 GTCTTCTAAA GTGCCTACAC CCTGTCAAA GCAGGAGCCC GAAGGCGGT CTACCATTTT 180  
 TGAGGCTCCT TCTTCTCCT CCTCCTTCC GGTGCTGG CACTTGATA TCTTTAGCAA 240

ATTTAGGAAA GCATOCAGTG ACTTTGACAA GOCCTTGTG GOCGAGTGA ATGAAGTTGC 300  
 CGAGAAGCCG TCCGGGAAGG CCAAACGCA AACTACTCC GCTGCCAGCA AATTAAAGCC 360  
 5 CGCTGCAAAG AAAATAAAGA CCCCCCGCT CGATGAAAGC GAATCTGATT TTGACCTTTG 420  
 CCTCAGGAC TCCAGCCCG CCATCGCCC TAGAAGTAGA GOCCTGGAG CTGTGCGCAA 480  
 AAAGCCAACC TACGTAGTTG ACCTTTTCCA TGACAGTTTT GTTGATGGAG ACCGCCAGAG 540  
 10 ATGTTGAGGA ACCGATACTG ACCAATCCTT CCAGCTCTGA CTAGCACTCT AGCTCGGCA 600  
 TTGACAGTNC NCTACCTTAT GGAGGNTCC GAAATCCTT GAATACCCC CGTTTTTTAC 660  
 TAAAACCCC NCTTTCTTTT TCACCCCCA ACCCCAGGG GACGAATACT TTTTCTTTA 720  
 15 CTTTCTATCA NGGGGTGGT CCCCCCCT 750

## (2) INFORMATION FOR SEQ ID NO:258:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 729 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1226RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:258:

GATGGTCTC GCATGGGAGC ATCAGATGTC ATATCGGGA AGCCTTTCCA TATGGGGCT 60  
 ACCAAGGATA CGAGTTCCG TCTGCTTGC GCTGTGGGG TCTGTAGCG TGCTGCTATT 120  
 35 GCTGTGCTG AGCCACACA TGTGGCTGG ATGGCATCT CCGGCAGCAG GCGAGGTCC 180  
 GGCCTCACCA GAGTCACAG CCCCCGCTT ACCAGAGTTA CAGGCCCCG CTTCACACA 240  
 GCCACAGTCC CCAGCAGGT CTAAGAGCT ACTGCAAGAC TTACTGCTAG ATAGCAAAAA 300  
 40 ACCGAGGGG GCTCTTAGC CACAGATGCA GTGCAAGGC TACTTTGAGG GCACATATCT 360  
 CCGGAGCCT TCTGGGCAA ATAGCGTGT GGCATGGCA GACGACTTC TTAGGCTAC 420  
 GCAATACACA GCGAGGCTGT TGGAGCGTG GGCATATTT GCTGATTGTT TCGTTATCA 480  
 45 GATTTCCGAT TTTCAAATAC NCTATCCAAA CAAAAAAGC TGCCCAANT CCATCAGCA 540  
 ANITCCCTT TGNINGGCA AAAAAAAN NGAGGANATT TTGCTNTCC CCNGAATTC 600  
 NCCCGGAAA ATTTTAAAG NGGNTTTTT GNAAANGGC CCAACAAAA NANAAAAGG 660  
 50 GCTTTTGTG GAAACGGGC CCTTTTCCC GNGNGAACA AATTNNNNN GGGGAGGCC 720  
 NGAATTTTC 729

## (2) INFORMATION FOR SEQ ID NO:259:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 742 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1226UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:259:

GATGGCTTCA AATTTCAGC CGTTGATATT CAAAGAGTGG TCAGGTTCCG AAAGATGGTC	60
CTTCTGTTCG TCTGTACGTT TGGAGGGCCG GCGTACCGG GCGTTCCGG TTGTCTCCAC	120
GGTGGGTTGC TGTCTATGG GGACATCTG GATGTTGTTT TCAAGGCAT TAGCAAATGA	180
GTTTTGTAG TGGTACTTAG GAAGTTTATA ATTTAGGCTC AGTTCTATAC TCGCGCTAAT	240
ACTTTGACCT GGAACAATCA TGGTATGTT CTCACCTCTG GCGTGTCTC TAGCGTATTC	300
CCGCGTGCT TCAGCATTTG GTTGTCTCTG GATCGTTGGG TATGGATCT CCCACTTCTG	360
TAGCCAGTTG GTATCCAGCT TCTCACCTG CTGATGCGAT TCTGGACGG GGGGTTTCAG	420
CAGGCGTTAG CAATGAAGTT GCGGTTGCC GTTCAAAAA AAANACCGG GGGGGCTGG	480
TAANCCGNC CCTTAAGGG CGGCCCCATA TTCNENATNA CENNAACGC NCCCCCATN	540
ACGCCCCAA AANATMTTG AAAAAATGC CTTACCTTTT TGGGGAGCC CACNCTTA	600
NATAACCAT TTTTGAAAN ANGCCNCTT TTINTTTAAC NCCNGGTTT NENANTATG	660
NGGGCAAAA TTAAACNCC CCCCNAAT GNAATCNNT TCCCTCNAA NACAAAAAT	720
ATTTTNTTT NGGGNGGA AT	742

(2) INFORMATION FOR SEQ ID NO:260:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 744 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1227RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:260:

GATGATGAA CAGACTGGAG AACAGAGAAA GGTGGTGGC CTCGAAGTC AACGGTTTTT	60
CCCGCTCGAT TTTGATGAGA TATTACTCCG GGATACGATG CAGAGGAACG CAGCTATGGA	120
AGAGGAGGAC TACAGGAGC TGGGAAAAG AGATATTGAG GTGGGTTTC AGAACACGG	180
CGTGACCTG GATGACAGC TCCAGTGTG GCGGCGATA TCGCTCTTCG GGAGGTATGT	240

ACGGGATATC GACGGGATGT CGGAAGGGCT TCGGAGCGG GACAGGCACA TCATGGTGT 300  
 TCGGCGGACA AATGACGGCA TTACGGGGAT GCGCAAGAAG CCGTGGGAGT ATCCACGGAA 360  
 5 CATCGACAAG TTGGAGCAGG CAGGCGGCTC TCGAGCGAA ATCCAGAGG CCATCCAGGC 420  
 GAATGTGAGA CGCTTTGTGC TAACCCAGGT GGTTCOGAC ATCGACCTCT CTAAGGTGGT 480  
 TCGGGAAGAT TGCTCCAGCC GTGTTTGACA AGGACTTCA TCCCAAGAGC ATGCAGGGGA 540  
 10 TATTCTTTTG CGGCCAGGAT GCGAANGTT TTACAGTNTC NTOCAANANN GGGCGGACCT 600  
 TCGCGTINAG ANGTTACCCC CCGCTCTAC GGTTTATTTT GGTINTCAGN CCCCCGTGGN 660  
 TCGGAATTNG AAAACCCCTC NCGTGNCCCN NCCCAATNAN TNCCTTGAAT CCCCNTTNG 720  
 15 GAACNNNNN TINCCCCAN CNCC 744

## (2) INFORMATION FOR SEQ ID NO:261:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 768 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1227UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:261:

GATCATTTGC CGGACCAAGA AATATTTTCA CTCTCGAAG AGCTGGCCAC TAAACTTCGT 60  
 GTCTGGTTCG GTTCGGCTCC AGCTGATGTC CTAGATATCG AGGTGAGAGG TAAGCTTATT 120  
 35 GAATACTGCA TGAATACTGC ACTTTATTGC GGTGGGAAAA TAGAACATCC TACATCGAGC 180  
 ACTTTGATGA CTGACCATGA TGAAGACGAA TGTGAAAGCT CTGATTCGGA ATAGTCCAGG 240  
 CAAGTTAATA CCCAATGCTC GGCTTTAGCC TCAAGGGAGA TATCGGTAAC AGCTCTATCT 300  
 40 ATGCTGCCAG CAGGTACGAG TTTTACTAA ATTTGGCATA CAGTTCATGG TATTTGACAT 360  
 AAGCTTAATG TTTCATTCGC AACACAAGGC TTGCGATGT GTAAAGTGCG CCGGCTCTCT 420  
 GCATTCAAGA CAGCATACAT GAACTTTCAG TTTTATACGC CGATCATGTT GATTTCTAAT 480  
 45 AGGGCTAGTC CATGGCCCTC ACCTATAATA TACTACCATC CAGCCCNCCG AACCGNACN 540  
 NNATTTTPTA TTITAATNAA ATTTTGGGGG NATNCCACAC NNNCCCTANC NNGGANITCC 600  
 AATGTTTATT TAANINAAAA ANCAGTTTGA AGGGTATTC NNNCCCCNC CCCACQNGT 660  
 50 TCAAAACCAA ACNANACCGT GAAGCNNGTN NTCCCCCNCA AGGAGNGCCC CCCCCTTCN 720  
 AAAAACGGIN NCGTTTNCN CCGTGCNCA ANATTCCCCC CGCTGCC 768

## (2) INFORMATION FOR SEQ ID NO:262:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 738 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1228RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:262:

GATCCATTGG	60
CCCCAAGCAT	
GCTAATGAAG	
TTCTTGCCCTC	
CAAAACCCAC	
ACTGTGCACA	
CCCTTGTAAG	120
ACTTGAAGTT	
CTTCACCTCT	
AAGCCAATCA	
GCTCCCCAT	
CTTTTGTAGA	
CACGTGAAGCT	180
CAGTCTAACT	
GCTCTGATG	
TTGTTAGTGC	
GCTGTTAATA	
TGTCCAAACA	
AACCCGATCA	240
TGGTGTGAA	
GAAGTGGCG	
TTCCCATACA	
GGTCAACAC	
GTAGCCGAGC	
GGCCCCGCG	300
GGCCGAAGAT	
CACGTGAGATC	
GGCAGGAACA	
GGGGGTCCA	
CAACAGCACC	
AGAAATACCA	360
AAATGGCCGC	
AAAGTTATG	
ATGTACAGA	
TCACCAGAGT	
CACCGCCTGA	
AACAGATCT	420
GGCGTGGCC	
CATCCCGACC	
ACCATCGACT	
GCCTGAATTA	
GTATATTCCG	
TCCACCTGC	480
TGTTTCATAC	
ATACCACCCC	
AGGGCACACC	
AGGGGGTAAC	
AACCCCAAG	
GNGTCCCTAG	540
GGAGCGCATG	
CAAAATATCC	
ACNCTCCCA	
TGGCATCTCC	
CNNTTGGAAA	
GGGNGCCCC	600
NAAATTTGGG	
CCNAAANCCC	
TTAAAAGGNC	
CCTGTGNCN	
CAANNACTTC	
NAATTTCCCG	660
NTTNGGCCCC	
CCCCCCCCCTC	
CAACGGGATT	
TAAACAGGN	
GGGNGGGGA	
AAAACCCNCG	720
AGGGGNTTTT	
TTTNGCCCCCT	
TTCCGAAANA	
ANCCNCCCCC	
CCNGGGAAAA	
AAATATTTTT	738
TTTNGGG	

(2) INFORMATION FOR SEQ ID NO:263:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 748 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1228UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:263:

GATCATGCCA	60
TTCTTACGCT	
TTGCCCCAGAT	
GGACGCCCAA	
ATGAATTCTCT	
GTGTATGCCA	
GGATGCTGAC	120
GATGCAGCTG	
AAGCAGGAGA	
CGACAGCGAT	
GTGACGCCCTG	
GTGTATGAC	
GCCTACTATT	180
TCACCTGTGA	
ATACTTGTTC	
TTGGCCCTCT	
GTAGACATAA	
TCTTGTTAAG	
GACAAAGCTC	240
CTGCTGTCCG	
TGTGTATCAG	
GTCAAGTAAA	
GTAAGGCCCT	
TAAATGCCAA	
TTTGGAGATA	300
CCGAAGATTA	
AGCATGCCAA	
ATCGTTAGCC	
GCCCTAAACT	
CCCATGGGTG	

ATGCTGGGAA CAGGTAAATA TGGCTGAGG TCGTGTGTAC TTACCTGATA TAAAAGTATG 360  
 CAGTATGCGG GCGCTTCGT ACGTTCGCT GTAGTCTATC GGATCCGGA TAGATGTTAG 420  
 5 TTGATCGGTA AATGGTTGGA GATAATTTTC GTCCGCGAG GCCGTATAG TAGTTTCCTG 480  
 TGTTTGAATA TTCATGAAAT GGTGGGCTA GCTTTCAGCA GCTGCTTCTT TAGTTCTTGC 540  
 TCATACTGAC TTCTTCGAG ATCTACNCCA CCGCTTGGG GGTGACCCCA GCACACTTAT 600  
 10 GATTTTTANA AGGAATCCCC GTAATCCAAN GCGCTTNCNT ACCGNGTCCC AATNGTTNCA 660  
 TCAAAANGTC ANNCCCTCNA TTTCNCCTTT TCTCNCAAA ACNCCACNT TAATTGAANA 720  
 NGNCCNTTC ACCGCGAGAG GTGGGNC 748

(2) INFORMATION FOR SEQ ID NO:264:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 653 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1229RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:264:

30 GATCGTAACA ACAAGGCTAC TCTACTGCTT ACAATACCTT GTGTACATC TAAGTGTGT 60  
 ACAATGATT TACTCTCGG CAGTATGACA TTGCAATCG CCGCACGGG CCCAGACCTT 120  
 TCGTCTGAA CACCAGTTGC CCGCTGCTA TGGTTCAGG ATGCTAAAAG CACCTTATTC 180  
 35 GTATCATCT ATAATGTGG AGAAAAAGAA TCATCGGTT CTAGCATGGA TTCTGACTTA 240  
 GAGCGTTCA GCCATAATC AGCGATGGT AGCTTCGGG CAATGCCCG TGGACAGCC 300  
 GCAAAAACCA ATTATCCGA TGAAGTGTTC CTCTGTAAT AAGTCAATT ACTATTGGA 360  
 40 TAACATTCAT CAGTAGGTA AACTAACTT GTCTACGAC GGTCTAAAC CAGCTCAGT 420  
 TCCCTATTAG TGGTGAACA ATCCAAGCT TACGAATTC TGCTTCGGTA TGATAGAAGA 480  
 GCGACATCG AAGAATCAA AAGCAATGTT CGCTATGAAC GCTTGACTGC CACAAGCCAG 540  
 45 TTATCCCTGT GGTACTTTCT GCACCTCTAG CCTCCACTCC CGAGAATAA GATTGATAG 600  
 CACACTTTCA TGTGTGTATC AACTGAATC AATCAGGACT TTACCTTGT TAC 653

(2) INFORMATION FOR SEQ ID NO:265:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 528 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1229UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:265:

	GATCAGATAC CGTCGTAGTC TTGGCCATAA ACTATGCCGA CTAGGGATCG GGTGGTGTTC	60
10	TCATTATGACC CACTCGGCAC CTTACGAGAA ATCAAAGTCT TTGGGTTCCTG GGGGGAGTAT	120
	GGTCGCAAGG CTGAAACTTA AAGGAATTGA CGGAAGGCCA CCACCAGGAG TGGAGCCTGC	180
	GGCTTAATTT GACTCAACAC GGGGGAAACT CACCAGTCC AGACACAATA AGGATTGACA	240
15	GATTGAGAGC TCTTCTCTGA TTTTGTGGGT GGTGGTGCAT GGCCGTTCCTT AGTTGGTGGG	300
	GTGATTGTGC TGCTTAATTG CGATAACGAA CGAGACCTTA ACCTACTAAA TAGTCTGCT	360
	AGCAATTGCT GGTTCGGCAC TTCTTAGAGG GACTATCGGT TTCAAGCCGA TGGAAAGTTTG	420
20	AGGCAATAAC AGGTCTGTGA TGCCCTTAGA CGTCTGGGC CGCAGCCCG CTACACTGAC	480
	GGAGCCAGCG AGTTATACCT TGCCCGAGAG TCTGGTATCT GTGAACTC	528

(2) INFORMATION FOR SEQ ID NO:266:

25

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 756 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

30

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1230RP

35

(xii) SEQUENCE DESCRIPTION: SEQ ID NO:266:

	GATCCCGTA GCGCTCTGC GGCATAATGT CTGCGTATA GGTGGACTCT GGCCTGATTG	60
40	TCCGCAGGGG AATGGCATGC TTCTGTGAGA AATACAACCG ATCATAGGCG GAGCTCATAT	120
	CCACCGTAGG TCGCTGGGAC ACGTACTTTT TGA CTGAGCC ATCATTCGGG CTGTTCATTG	180
	CGACTCTAAT CTGATTGAGA ACCCTGACCT CTAGTCTAT AGCGCAGGCG GTACCTGTCT	240
45	GATGATGGCG TTTTCAATGC TCGAGCGTGC GCAGTGTAC ATCGATCGTC CCGGACGATG	300
	TTTAAGCAGG ATGCTGAGCT AATATGTATC GGTATAGGCT ATTGGCAGTA GACCTGGGTA	360
	TATACGCCTA GATATGGACA AGATGCTGG CCTAGACATC CAGAACTTAA CCAGGCTCGG	420
50	GTAAAGCCA CCCAGATAAC ATTGAACAT TAGAACAATT ACCACCGGA ATGGAGGGGA	480
	ACCCAGTGA AACCCACGG CATCCAATAG TTTCCCCCAA CNGCGAAANG GCAGAATGCA	540
	CCGCCAATG CTGCCCAAC GCCCAGGCG ACCCTGACCC CATTGACCTN GAAGCCCTGG	600
55	GGCNAACCTG CATTTTACCC CCCCCATIN GGAAAAANTG ACCGAATAAA ANNCCCCCN	660

AAAAAANAAN GGCCNCCCCC AATTACTTTT TNNCCNNGGG CCCCNAACCC CNGGGCNNA 720  
 AAAANNANTG GGGGGGGGTT TCCGNNTTTT AAAAGG 756

(2) INFORMATION FOR SEQ ID NO:267:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 784 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1220UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:267:

GATCTTCCGC TCCACTTGCT TGGGCTGGCG CATGTCAAAG GTTAGTAAAA GCCCCGAATC 60  
 GTGTACTGAC GCGAACTTGT TGGATCTTCC GGAAGAACAC AAGGACGAT CCGCGCCCAA 120  
 GGACGGGAAA TCATAGGTG GCATCCACTT TACATCAGG ACGGAATCTG AGCCTGAATT 180  
 GAAATTCAGG TGGCTGGGT TCACCTGTGA AGAGTGGAC CGCAAGTCCC ACACCTTGAT 240  
 GCAGCCGTCC TGGCCACCC TGATAAGGAG ATGGGTCTGG CCATGTGTGA AGTCCAGGCT 300  
 GTTGATGAA CGGAGTGTCT CGACAGGCT CGGTGATCAG CCGCGAATCC TTGCGGAGG 360  
 CCGGCTGAT ATGTAGATG GAAACCGAGG TGGAGTCCC GCATATGGCG ATGTAATTCT 420  
 TGTGGTGGTG GAACCCCGCC CTGACGTCC CGAATCCGT GCTAATCTTG CGCATGTTT 480  
 CCGGCGCCAT GCTGCTGAA GAACTTGTG CCGGCCGCC AAGGNTCCCC NGTTGTGNT 540  
 GTTATTCCTG GCACCTGCT GCTCCCTGTA CCGTCCGTG AACTTGTGTA GCGCAAATGG 600  
 TCTTCCCCCN CCCCNCAC CATGCCCTT ANCTTCTTTG ATTTTCTTCC AACCTTGCCA 660  
 CCCCCGGTGG CCTGGAGGG GGTACCCCC CCAAAACCC CNGGCCCCC CAATTNTCC 720  
 AGGCCCNCCC GAATTTGGTT TNCCTNNGG NCCCCNNGG GNCNNAAAA CCTCCCTAA 780  
 AGNA 784

(2) INFORMATION FOR SEQ ID NO:268:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 751 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1231RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:268:



GATCATCTGC GTGAAGGGCG ACAGAAGCCT GCGATGGAA ACATTGGAAT TGATGCATTA 60  
 ACCCAAACAC ATGGGTCAATT TCCTCAAAC CAACAGAAAG GGGACGAAGC TCGGCACACA 120  
 5 GTGCTGCAA ATCTTTAACC GAGTTCTGAA AATTCAAAGT CGGTAGTTCT CGTATGTTGA 180  
 AGCCAGATCC ATAAACTATC TTCTCACTCG CCGATGCAA AGTATCAAGG AATAGGCGAC 240  
 AATCGGTAAT GATTGGCTCG AGCTCAGCA GATATTGGCG CACTTCTGAT ATCCGTGGGT 300  
 10 TGTTCGATGC ATGATGCACA TGAATAAAG GAAGAAGCTT CGAAGAGGT ACACGGCCCG 360  
 GGTAGCCGTG TGATGAGAGC TGTTAGTTG GCTTCAACAT CAGCAAGTTT CTCTATAGGG 420  
 GAGCAGGGT CGTCAACATC ATTTATTAGA CACTCCAGC ATTTGTTCTT GAAAAAAGT 480  
 15 NGTCATGNA CAATNGCNC CCCCCCTTTT GAAANGCCG AGAAATTTC CTTNNAANAC 540  
 NAATNCTNG GTNNAANTG TTNNAANCC CTTNAATTA AACCTTNNN GGCNAAAAA 600  
 AATNITTAA ANCCTTTTNA ACNCCCCGG AAACANAAC CCCCCCCCCA AAAAAAACA 660  
 20 NGTTTNTCC NCCCCCCCC CCCCCGANNI TTNVAAAAC TTNVAAAAT CCCCCCCCC 720  
 CNAAAAANC CNNAATTTT TTTTAAANC C 751

## (2) INFORMATION FOR SEQ ID NO:269:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 762 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1231UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:269:

GATGTCAGC GTGCATGAC TTGGCATTGC AAAGGATGT GATCCCTGAG GCGAGGCTTG 60  
 CAGCAGGCGC GCTCCTTGT TTACATCATA GGCTGTGAG GCGGACTGA TTCAGCTCTC 120  
 40 AAGCGAGCA CCTCCCAAC GCGCAATAGG GCGCCCTCC TGGCTGTGC ACGGAATAC 180  
 CTCAGACACT GCGTTAAGAT ATATGTATTT AAGAGGGAC CAGCTGGCTA TCAATTGCCC 240  
 TCTCTGCTCT TGTTCACA CAAGGCAAGT ATCATGATGT CTGCTGAGG AAAAATGTT 300  
 45 AAGAACAACG GCCAGAGGA TGAGCGAAG AATGCGGGC AGAGAGAGGA GCGCCAGTAC 360  
 AGGCTGGCG ATGAGCAGG CTTGGGCGC CAACAGCAG CTGACTTGG CCGCCAGTA 420  
 CCAGCAGGG CCAGCTGCG AGCAGTTGGA CGACACTTGG NGCTTCCNA CATTTGGGC 480  
 50 CCCCACCAAT TGGGCCCCA GCAAAATNG CCCCNNCT TTNATTTTNG GGGCGAATG 540  
 GGCNAACT ATCCCAANT TNGGGNAAC TCCCCCCCC GNAGAGAAC NCATTTTTC 600  
 55 ATTGAAAAC NCACCTTNN TTTGNVACG CCCCCCCNA AAAGCCANG GACTGTINTT 660

TTTNGAAAAC GNCOCCTTT NIGTNCNNN ANAAATTTT CTANAATTTG CGNGGATTCC 720  
 TCCCTTGGGG CCATTCCTTT TTTACCTTTT TAACCCCCC CC 762

(2) INFORMATION FOR SEQ ID NO:270:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 746 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1232RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:270:

GATCTTATTA ATGAATTTT CCCCACGAAG CTGTGCGAAT TTTGATTCTA TGCTTTGCAA 60  
 GCACTCAACT TGGGCTGTGG TCATGCGAAA CTAACACGCC GCGAAACAGA TACTGCCCCA 120  
 GCGTTAGCAC TCCTCTTTTG CGGTCCTACA AACAAAGTGT GAGCATTAGC GTGTGACTTA 180  
 TTTAGGGTGT GAATATACAA AAGTAAGGCG TACATGCGA TATCTCTCTT GTGTGCTCTT 240  
 CTCTTACCTA CATCTAGATG TATTCAGGGA ACTTCCCCGC GAGATTACG GCCAAGGCGC 300  
 TOCAGCCCGT AAAGTGCTGC ACCCGTTGAC CTTTCATCG TTCTGGTTGT ATTGTTGGGT 360  
 AACAAAAACC ACCTTTCCCC AAANTCNAAT AATTGNTTCA ACAGGTGTGT CCCCCATTG 420  
 AAAGGGATAN NCGTTTAAAC CCGGNCNAAA CAANNAANG GNINGTTTTT TTGGGCANAA 480  
 ACCCCCCCCC NAATINAACC GCGTGGGGCC CTNCNCAAAA TTNTTTTTTT CCCCCNIGG 540  
 GGNCCCCNCC NAANAACCC CGNGGTINNA ATATATCCCN CTTTINCCAG AAGNGANTCC 600  
 CCCNNAACCC GNGGNGATNT TTTGTGNTT TAAAAANNCC CCCCCCCCCC CCNGGAGGG 660  
 NNTTCNCNC CCCANCAITT NNACCNAGGN GAGTTTTTTT TCCTCCCCG GGGAAAAAAC 720  
 ANTGTNNIT TTNNNNCCNA AAAAAA 746

(2) INFORMATION FOR SEQ ID NO:271:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 777 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1232UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:271:

GATCAGTTTG CCGTAATTGA TACAAAAGGC AACTGGTGGG TGGGCGACGT TGGGAGGAGT 60  
 AAAAAGAAGT CCGGGCGACT GCGCTTGTTA AGGAAGTTTA GCGGGACTAT TTTTGACCCA 120  
 5 GAGGAGTACT CCAATTGGAA TATGATAGAA TGGTCACATA TTCACACAAG ATTGCTTTGTG 180  
 ATGAATAGGT CAACTTTTCAT GGAAATTGAC TTGTAGACG GATGGCAGCA GGAAATTGTC 240  
 CAAGCAAAGA CGTGGTCTAA CTTGGGGGAT TTTAAAGGC TTTCGGATGA GAGCAGTGTG 300  
 10 CTACTCAGCT GCAAAGAGAT TATATTCTTA GACCACAAGC AGCAGGGAAC AAAGAGGGCG 360  
 CTATCTGGA AACACAATTG GGATAGCAAA GATTCACTTC TAAAGCTTGC TATACACATT 420  
 TGTGGCAGCC ATATGAAACA ATATTTTACAT GCATTCCTAT TTCCACCATG ACTCCCTGCA 480  
 15 GTGCTATGT GTCTTCTTC CCGGTCCGAA AACACTTTTC ATTTTTCAG CCATCCCCCC 540  
 GCTGNTGTT TTTTNCATT TACACNCG NTTTTACCGA AATTACCTCC CCNTGTCNCC 600  
 NAGAAACCGA GTTTNANAGA ACCACACCCC CTTCATTTTC CCTANNITGT CCGCCCCCCC 660  
 20 CCAGGGCGAG AGTTTTCGGN CCCCCNTTT NTAACCATN TTNCCCNCC CCNCAAGGT 720  
 TCCCCACNT AAAANCCCTG AAACCCCTTT TCCCCCCCAC ATTTTNGGTN GGGGATN 777

## (2) INFORMATION FOR SEQ ID NO:272:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 734 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1233RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:272:

GATCAGCTG CTGTGGGCAT TGCTGCTGT CGTGCTCTTG TGCCCCCTCA GCGCGAAGT 60  
 AGACAAGCTG CCAGCAAGCA CTGATTGGTA CAGGAGCTTT TTGTTCAAGT TCTTAAGCAG 120  
 40 GTTGGCGGTC GAGTCCGGT TGTCAAAAC AGCGCCCGC TGCACGCTCG AGCTGACTC 180  
 CCGCGCGGC GACGAAGCG TGAATACAC CTCTGATCC GGGTGGCAT CCTGCTCT 240  
 CGCAGTCCC CCGGAAGCAA AAAATTCCTC CACGGATGTA TTCCCGTGGT TGCCAGCTG 300  
 45 CGCACCGGC GTACCGGAG CGCTGTGAC ATTGGAGTG ATATTCTCCA TCAGCAGCTG 360  
 CGAGCTGATG CCCCCTCGG CCGCTGTCTT GCTCCATCT GTAACGTCT CAGACCCGA 420  
 GTTTTGTCT GTGTCCAG AACGAGAGT TCAACCATGT GACGAAGCAG GCGGTTTGG 480  
 CCTTCACCAC CNAATTGGG CCTTCTGCT GGAACNCAA CCGCGGAAT TTCCCAACT 540  
 NIGATTCCN AANTGCGCG CCNCCNCCC AAATTANAAT CCGCAATTGN GNTGAAATN 600  
 55 GNCNAATNA AACCCNNTT TCCCCNNIN CNNNCCCG GCCCAANGA GCGNTGGG 660

GTTTAAANNC CCNACCCCC AAANITATAC CTTTITTTTG NNCCCNCCCC CCNNCCCTNT 720  
TTTTTINCCC NTCN 734

(2) INFORMATION FOR SEQ ID NO:273:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 761 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1233UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:273:

GATCCAGCTT CCATATAAGC TGGTGTITTC GGTGGGACC TCTACAGAAG TGGTGATATA 60  
TGATACTGTT ACCACGAAAC CCATTGCAGT GGTGGGAAAT TTGCATTACA CCCCCTAAC 120  
GGACCTCAGC TGGTCTGACA GGGGCCACT ACTCGTGTG TCATCAACAG ACGGTTTCTG 180  
CTCCTATATC TCAATGGAGG ACAGCCTATT TGGCGAGCCA TACAGTTCCG AGGCACAGCG 240  
GACCGATTCT CTCATACCTT CCACTCCAAA AAGCAACATC TTCAGGAACA CCTCGGGTC 300  
CAACCCGGTC AACGTAAAGC GGAAGCACTC TGTAGGGGGC CACAACGACT CACCCATAAA 360  
CGGGCTGCC AAAAAATGTC GCGCTTTCC CTTGGGTGG TCGATGAGG ATCTGGGCG 420  
GCACACAACC GCTACTCTT AGCAAGATC TCAAGCCTCC GAAGGCGCAT CCAACCCGTC 480  
CTTGTTTAAAT GACAACAACG GCGGCACCTA GTATCCCCNC ACGCCATCCT ANAAGTTTG 540  
ATTCCNTAT ACTNAAATAC AAACCCGANA ANCNNTTTC TTGTTNACAA ACTTTTTTTT 600  
GACCTGCATC AACTATCCC GGNAGGTCA TTCTTGGCGA ATGCCCCCTC CCCCCTANAA 660  
CNCCNTACN TAAACCTTCC CNCTCCATA TTACTCATG AATCNNGCG AANTCNCTG 720  
GGATNNCCA NCTTTTGGT AGTNTTCCC TTTTGTTC C 761

(2) INFORMATION FOR SEQ ID NO:274:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1234RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:274:

GATCAGAGTG CTGTGGCAT TGTGTCTGT CGTGTCTTG TGGCCCTCAA GGGGGAAGT 60

AGACAAGCTG CCAGCAAGCA CTGATTGGTA CAGGAGCTTT TTGTTACAGT TCTTAAGCAG 120  
 GTTGGCGGTC GAGTCCCGGT TGTTCAAAAC AGCGCCCGGC TGCACGCTCG AGCTCGACTC 180  
 5 CCCC GCCCGC GACGACCGCG TCGAATACAC CTCTGATCCC GGGTCGGCAT CCTTCGCTCT 240  
 CGCAGTCCCC CCGGAAGCAA AAAATTCTCT CAGCGATGTA TTCCCGTGGT TGCCCAAGCTG 300  
 CGCACCGGGC GTACCCCGCAG CGCTGTGTGAC ATTGGACGTG ATATTCTCCA TCAGCAGCTG 360  
 10 CGAGCTGATG CCCCCTCGGG CGCTGTCTTT GCTGGCATCC TGTAAAGTCG TCAGACCGGA 420  
 GTTTTGTGTC TGTGGTCCC ACGAAGGAG ACGTCCAACC ATGTGTACAA CAAGNCGTTT 480  
 TTGGCCTTCA CACCCATTTC CACTTTTCTG GTNGAAGCC AACCCCGGAT TTCNCAACNG 540  
 15 GNATTTCCNT ATNGCCCCC CCCCNCNNA AATANAACCC CAATGTNGNN TGAAANGGNA 600  
 NAAAANAACC CCTTTTCCC CCTTTTCAA CCCCCGCCN AAAGGCCNNT GNGTGNNTAA 660  
 ANCCCCCCCC CCAATTAA TCCCTTTTAA TTGCCCCACC CCCCACCTT TTTTNTTTC 720  
 20 CTTNNNNN 728

## (2) INFORMATION FOR SEQ ID NO:275:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 782 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1234UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:275:

GATCCAGCTT CCATATAAGC TGTGTTTTC GGTGGCGACC TCTACAGAAG TGGTGATATA 60  
 TGATACTGTT ACCACGAAC CCATTGCAGT GGTGGGAAT TTGCATTACA CCCCCTAAC 120  
 40 GGACCTCAGC TGGTCTGACA GGGCCACCT ACTGTCGTG TCATCAACAG ACGTTTCTG 180  
 CTCTATATC TCAATGGAG ACAGCTATT TGGGAGOCA TACAGTTCCG AGGCACAGG 240  
 GACGGATTCT CTCATACCTT CCACTCCAAA AAGCAACATC TTCAGGAACA CCTGGGGTC 300  
 45 CAACCCGGTC AACGTAAAGC GGAAGCACTC TGTAGGCGC CACAACGACT CACCCATAAA 360  
 GGGCGCTGCC AAAAAGTGTG GCGCTTTTC CCTGTGGTGG TCAANAAGN ATTGGGGCC 420  
 GGACCACNAA CGCTACTCC TTANCAAAA ATTTTTCAAA NCCCCAAG GGGTCCCAA 480  
 50 CCGNCCCTT GTTTTGTGA AAAAAAANG GGGNCTCA TTTTINCC CCCCCCNC 540  
 CAAAATTTT GGGATCCN NTNCNAAAA AACAAACCC AAAANCTTT TTCCGGITAN 600  
 NAAANNTTNN CNINGACCC CCCCCCCCC TTCCGGNGG TCATTIVINC NAATNGCTC 660  
 55 NCCCCCTINA AAGNCCCN CNAAAAAN CCCCCCCCC NTTTTCCC NNVAACCC 720

GGGAAAATTC CCNCGGGAN NNNCNANITTT TTCTTGGTCT CCCCCTNITTT NTTCCTTNA 780

GG 782

(2) INFORMATION FOR SEQ ID NO:276:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 747 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1235RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:276:

20	GATCCTTGAG AAGCCAGATA ACGACGAAGA CGAGGAGCC AGTGACGATG AGGATGCCGA	60
	CGACTAAGAC TCGGATTCCTC CCGGGCCUGG CGACAGCGGC AGCGAACTCA GAGACCTCC	120
	TGGCGCGGGG ACATTGGCTA CGGAAGTCCA CGGATCCAGC GTCTGGCCT CCCCCTGAC	180
25	CTATTCTTGG CGCTCCGTCA TGGTCCACTA TGGCACACAC AACTAGGAC ACTACATTGC	240
	CTTCGCCAAG TTCCGTGGTG TGTGGTGGG CATCAGCGAC GAAACAGGT ACATCGTGA	300
	TGAAGCTGAG GTCTTGTCGA CACCGGGGT TTTCATGTTG TTCTACGATA TGAATATGAC	360
30	GAGGCGACCG GCGAGTTGG TGACGACTTG GGTGCTTAC AGGAGCCAG TCCGTGCTGT	420
	CAGATGGGGA CGGAAGAATA CGACTCATTC ACCGGGTCCA CCAAGACCTC GATTCAACGA	480
	NCCAGCTGTT GCTCCCGCCA ATAACTTTG TTGGGGGCTG GCGGCCATA TNINCTCCAT	540
35	GCATGTTTAT GCCCCACCG GACATGTTTG ATCCANATAC TTTTGTGTTN GTINCCCCCT	600
	TTCAAGNTT CCCCCNAAGC AAGATTCTTA NNTACTTGC CTNGTTGTTT CCNCTGGTT	660
	TGGAACCCCA AATTCCINTT NNCCNTTNTT GGCCANCC NNGGNAACC CCCCCTTTTT	720
40	TTTCAAACCA GGNTTNCCT TTINGCN	747

(2) INFORMATION FOR SEQ ID NO:277:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 776 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1235UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:277:

GATCACACCC GTGTTCTTTT CAAAGGTGAC CTGCAACTTC TTGTTATTCA AGATGATAGT 60  
 CTCACTGTCC TTGACACGC TAGCAGGGTA AAATACCGAC TCTGCGCGT CAGCGTTTTC 120  
 5 TGCAGCCATG TTATCCATT GCAAGGTGCC TATTGGGACC AAATTTTCC CTCCTGTGTT 180  
 CAAGGCTCC AAAGCTCTCT CTATGAACCG ATCTGCTAGC TGCACGACCT TGTTAAGCAT 240  
 TGGTATTGCT TCATATTTGT ATACCATTTC TATACATGTC CCGGGAAGGA CATCGTGGAA 300  
 10 CTGGCATAAC AAGATATCTT CCATAGAGC GTTAATATCA TTAACAGGT ACGTGTACTT 360  
 GTTAGCGCT AGTAGCGAA CCTTTGTGGC AATCCACTCC AAATCATGGA TCCTAACCTC 420  
 AGATAGTCTC ATCAACCGTT TAAGCTCTGC CTGTGTGTA TACGTGCTC CTATGGAAT 480  
 15 CAAAGTTACA ATCCGCCAT CCAAGTTGGC CAATGNGTTC CCATGTCTG NCTTNGCAT 540  
 AATATCACCG TAAAAACCGT TTANGGAATC CCNACCCCC NACCTINGGG AANAACATTG 600  
 CATTCGCGGT TAAAAITGAA CGANACCC CCATTTGTTT CACNCCCC TGTITGAACC 660  
 20 CCNCCCCGN CNOGNAACC NNAAAAANAA CGTTGCCNA ANGTTCATIN AAAGTTTGT 720  
 TCCCCCGGG TTFAAANCC NAATTTTAN AAGGTTCTT TTCCCGGG GGGTIG 776

## (2) INFORMATION FOR SEQ ID NO:278:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1236RP

## (vi) SEQUENCE DESCRIPTION: SEQ ID NO:278:

GATCTCCCTC CGGTGGAAGT ACGTGGACTG TTGAGACTC TGCAGGTGTT CTTTGTATAG 60  
 CTTGGATGCC TTAGCTCCCA TGCTACTAT AACCTGTCC CGGGCTCAG CTATGTGGG 120  
 40 GCTGCTATC TTACTGCTA ACTCTGGAA GGTGAGAGG CCATAAGCA CGATCGGGA 180  
 GCTGCTCAA TTATGCTC TGAAAGCGT GTGTGGTCC ACTTCCAG ACCCAAGGT 240  
 45 ATGCGGTGA CTTGACCTC GGTCGGATG TGACGCTGG AGCGGTGG ATGCGGCCC 300  
 TCATGGCTGT CGGTGCGAA GGACTATCTA CCAGGGACTT GGCTGCTGC GCAATTTGCA 360  
 CTGCAGCTTG CAGTGGAGT CTGCGGAAG CTCACGGCA GCGCAGGCA GTTACAGCA 420  
 TGGCAGGC CAAGCCCCG GAGTTGACG GAGTTGGTT CCAGATATT GCGGTCCAA 480  
 50 ATTCTGANTA GCGCTTATA TNAGANCCCC NCGTTGAAC CCCAAGTTT TTTATGCGA 540  
 TGGTUGAAT TNGCCCCCT CGGTTAACCC CCCCCAACC CTTNCCCCG GCAAAANCA 600  
 55 ATCTNCCCC NGTTNAAAA ANCCGAACN NNAAAATTTT AAAGAGACA AATCANINCA 660

CCCCGAAAA AGAGCCCTNT CTTTIGAGAA TTCCCGGGG GGGGNGTAAA TTNAACCTTT 720  
GA 722

(2) INFORMATION FOR SEQ ID NO:279:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 789 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1236UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:279:

GATCTTCGTC CGCTTCGGGT CAGGAATTC AAGCGGGATG AGCTCTTGTT TCAGTTTACC 60  
ATAAAAGAGC TGTTTTACAA GGTGGAATTG CTGGCCCTCT TCATCCAAGC TGAGCGGGAC 120  
GGACGCCTC TCAATTTGGT AGAGGAGGTT CCCAATGCAT TCCGTACAT CTTGCTGTCT 180  
GCCAATCTCC AATGTGTTTT CTAGCTGGTC GGAACATAAT TTCGCAACAT AGGTGGAAGT 240  
TTCAGGGCCT TCGGCTCTG GACTCCGAC CATGGTGATA TCTTTACCTG AGTCATCATT 300  
CTCAACAGCC TGCTATCCT CAAGCGGACC TCGGCTGGTG TTTTCACCN TTGGGNGGN 360  
GAANTCAAT ANCCCCCTT TCTGGGGTTC TTGGAAAGNA TINGGANAAT TINTTGGCC 420  
GGTINTTACC NITTINGANA GAGACCTTG GINTTCTVAN AOCNAAATNN TCCCNNGGG 480  
CNCCCGNCG AATNTTTTN TITCCAAANT TIOCNAANN CMCITTTINT GCTTTTCCCC 540  
NITTINGNGG NAGCGCCCA GGGGNGCCC CGAANTAATC NCGGGGNTGG AAAAAAATAA 600  
NAATTTCCCA NAGGGGNTT TMTTTTCCN TCGAGAAGG GNGGTTANAA AAACCCATTT 660  
TTTCCCCCN NTAGANAACC CTTTTTNCN CGGGGNTCC NGCCGGGGG ATINTTNGG 720  
GNGCNTGNN NACCTCCCTT CCCCCTATA NAAATNCCC CGGGGGGGG TTINNTTTTC 780  
CCCNAAAN 789

(2) INFORMATION FOR SEQ ID NO:280:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1237RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:280:



GATCCGGGTT GAAGACATTG TCAGGTGGG AGTTTGGCTG GGGCGGCACA TCTGTTAAAC 60  
 GATAACGCAG ATGTCTAAG GGGGACTCAT GGAGAACAGA AATCTCCAGT AGAACAAAAG 120  
 5 GGTAAAAGTC CCGTTGATTT TGATTTTCAG TGTGAATACA AACCATGAAA GTGTGGCCTA 180  
 TCGATCCCTT AGTTCCTCGG AGTTTGAGGC TAGAGGTGCC AGAAAAGTTA CCACAGGGAT 240  
 AACTGGCTTG TGGCAGTCAA GCGTTCATAG CGACATTGCT TTTTGATTCT TOGATGTGG 300  
 10 CTCTTCTTAT CATACCGAAG CAGAAITGG TAAGCGTTGG ATTGTTCACC CACTAATAGG 360  
 GAACGTTGAG CTGGGTTTAG ACGTCCGTG AGACAGGTTA GTTTTACCTT ACTGATGAAT 420  
 GTTATCGCAA TAGTAATTGA ACTTAGTAGG AGAGGAACAG TTCATTGGA TAATTGGTTT 480  
 15 TTGGGGCTGT CCGACCGGGC ATTGCCGCGA ACTACCATCC GCTGGATTAT GGCTGAACCC 540  
 CTCTAAGTCA GAATCCATGC TAGAACGCGA TGATTCTTTT CTGGCACATT ATAGATGATA 600  
 CGAATAGTTG CTTTTCATCAT CGCTGAACCA TACAGCCGCA CTGTGTTCAA CGAAGTCTGG 660  
 20 CCGTCCGCG ATTGCA 676

## (2) INFORMATION FOR SEQ ID NO:281:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1237UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:281:

GATCCCGTAC ACGAAGAAAA TCGGACGGGC CAACCAAAACC CAAAGTTCAA CTACGAGCTT 60  
 TTTAAGTCA ACAACTTTAA TATAAGCTAT TGGAGCTGGA ATTACCGGG CTGCTGGCAC 120  
 40 CAGACTTCCC CTCCAATTGT TCGTGTAA GGTATTTACA TTGTACTCAT TCCAATTACA 180  
 AGACCCGAT GGGCCCTGTA TCGTATTTA TTGTCACTAC CTCCCTGAAT TAGGATTGGG 240  
 TAATTTGGC GCTTGTGCC TTCTTGGAT GTGGTAGCCG TTCTCAGGC TCCCTCTCCG 300  
 45 GAATCGAACC CTTATTCCCC GTTACCGGT GAAACCATGG TAGGCCACTA TCCATCCATC 360  
 GAAAGTTGAT AGGGCAGAAA TTGAATGAA CCATGCCAG CACAAGGCCA TGGATTCCG 420  
 AAAAGTTATT ATGAATCATC AAAGAGTCCG AAGACATTGA TTTTATCT AATAAATACA 480  
 50 TCTCTTCCAA AAGTGGAGAT TTGAAGCATG TATTAGCTCT AGAATTACCA CAGATATCCA 540  
 TGTAGTTAA AGAATATCA AATAAAGAT AACTGATTTA TGAGCCATTC CGCAGTTTCA 600  
 CTGTATAAAT TCGTTATACT TAGACATGCA TGCTTATCTT TGAGACCAGC ATATGACTAC 660  
 55 TGGCAGATTC AACCATATC TATCTTTAAG ACACCGGAAA TGGCAACA 709

## (2) INFORMATION FOR SEQ ID NO:282:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1238RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:282:

GATCACGGCA ATGAAAAACT ACGCAAACGT TACAGACTTT GAGTGGTACA TCGCCCTGCT 60  
 TTGGGATCTC TGCATAGTCT CCCAGGACCT GCAAGACAAG ACCCTGGCGC AGAAACTGGG 120  
 TGAGCAAATT AGAAACATCA TGGTGAAGGT TCCTGAOCTG CCGGATCGCA CTTTGGCGCA 180  
 GATTGTGCAG CTGGTGAAGA GCGAGGACAT CACGGCCCCG CTGCCCGGTG TTCTGAAGGA 240  
 GTGCATCTGG TCCTGGGCG AGTATTCGTC GTTGCTGAC AATAAGGATG AGTATATTCT 300  
 GCTATTGGCA GAAATTCGA AATTATATGA GCTGAACCTA CAGCAAACCTT TGATCCCTGC 360  
 CATTTTGAAG ATTTATAGCA ATTGGTGTAA CGAGTGGTG GTGACACGG GTCCGTATTA 420  
 AATGGGTAC CGAGCGGATA ATCACCCCAC TAGAAGATCT AATAATCTCG AAGAACTTCG 480  
 AAGTCCAGGA GGGTCTTCC GAGGCTCTCG AATTCTACCC TTMTTCTCG ACNCCCCCTC 540  
 CNAAATNNIC TGNATCCCTA NNGCTGGCA NCTTACNAAT TCTNGCCCA NTTCTNCAAC 600  
 CCTTTGAATT NACCNNNNN CINTGGGCG CCCAAAAAC TNNNNNAAA CTNTNTTTCN 660  
 ATGGGAACCC CCTTNNCCN AAANGAAGCC ANANNNNACC GNAAAACNN CTGGAAGGA 720  
 TTTCOCGAG TTTTGANAAC ATTTNNCCN AATTTTCCG GACGGCCAAA AAGGGTTTIN 780  
 CAAATTANTT CCGGGGGGGA AGGGGAANG GGGGNGNNA 820

## (2) INFORMATION FOR SEQ ID NO:283:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 875 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1238UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:283:

GATCAGAAAC GGCCGCTGC AAGAATGAT GCGATGAGC TTGAGCAGT TGAGGCATCG 60

CTTATGCAAA AAAAGAAATT CCTCAGATCA CGTGACAAAG TTTCGTGATC TCTAAATGTC 120  
 GACGGTTGGG CGAAATGTGC CGTCTCTGCG TATAAAATAT AAAC TAGTTT CTCTACCACT 180  
 5 AGACTGATTG GGAATATCTA AGCTTTCACT TGATAGCAGC AGGAGCACTT CATAATCCAG 240  
 TACCTTCTTT GGCTTATCCA CACTAGTCAT CTCATCGAAA ATGTCACAGC CAGTGCAGAG 300  
 AGCCGCGGCT CAATCCTTGA TATCCAAATA TGTCAATAAG GAAACGCTAA AATACATGCT 360  
 10 TACAACGCAC TTCTGGGGCC CGGTATCGAA CTTTGGTATT CCGATTGCTG CGATTATATGA 420  
 CTTGAACAAG GACCCTCAGT TGATTTCGGG CCCCATGACG TTGGCGCTCG TGGTATCTTC 480  
 AGGTATTTTC ATGCGTACT CGATGGCGT CACTOCCAAG AACTACCTCT TGTTTGGGTG 540  
 15 CCCACTTTAT AAACGAGTCC CGCGCACTC CGACAGCGTT CCCGCTGGCT CAAGTTTCAA 600  
 TTACTTCGGC GAGAGCGCTG CTGTCAAGGC ACCCGAGAGA CCCGCATAGG TGCGTTTGGG 660  
 TCGGCACAGG TTGCATTACA GGTGCGACCA CTACATAGAA TATTATTAAG CCGACTATCC 720  
 20 TACACGTTTC TAGAGCTAGT CGAGATGCTT TTGGCTGATA CTGCTGCGTT GGGCCAGGCG 780  
 GTATCTTGCT CCTCTGGCT TTGCTGGGTT GCGCAGCTCC CATTGTCGG TTCTCGATNN 840  
 TCTGTGTCC CGTATCCAST GACTAAATGT CTCGC 875  
 25

## (2) INFORMATION FOR SEQ ID NO:284:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1239RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:284:

40 GATCAACTTA GAAC TGGTAC GGACAAGGGG AATCTGACTG TCTAATTAAA ACATAGCAAT 60  
 GCGATGGTCA GAAAGTGATG TTGACGCAAT GTGATTTCIG CCCAGTGCCTC TGAATGTCAA 120  
 AGTGAAGAAA TTCAACCAAG CGCGGGTAAA CGCGGGGAGT AACTATGACT CTCTTAAGGT 180  
 45 AGCCAAATGC CTGTCATCT AATTAGTGAC GCGCATGAAT GGATTAAAGA GATTCCCACT 240  
 GTCCCTATCT ACTATCTAGC GAAACACAG CCAAGGGAAC GGGCTTGGCA GAATCAGGG 300  
 GGAAAGAAGA CCTGTGTGAG CTTGACTCTA GTTTGACATT GTGAAGAGAC ATAGAGGGTG 360  
 50 TAGAATAAGT GGGAGCTTCG GCGCCAGTGA AATACCACTA CCTTTATAGT TTCTTTACTT 420  
 ATTCAATTAA GCGGAGCTGG AATTCATTTT CCACCTTCTA GCATTFAAAG TCTTATACGG 480  
 GCTGATCCGG GTTGAAGACA TTGTCAGGTG GGGAGTTTGG CTGGGGCGGC ACATCTGTTA 540  
 55 AACGATAACG CAGATGTCTT AAGGGGAGT CCATGGAGAA CAGAATCTCC CAGTAGAACA 600

AAGGGTAAAG TCCCTTGAT TTGATTTGAG TGTGAATACA ACCATGAAGT GTGGCCTATC 660  
GATCCTTAGT TCCTGAGTT TGAGCTAGAG TGCCAGAAAT TACACAGGAT ACTGCT 716

(2) INFORMATION FOR SEQ ID NO:285:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 793 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1239UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:285:

GATCATCTTC GATCCCCTAA CTTTCGTTCT TGATTAAATGA AAAAGTCCTT GGCAAATGCT 60  
TTCGCAGTAG TTAGTCTTCA ATAAATCCAA GAATTTACCC TCTGACAAAT GAATACTGAT 120  
GCCCCGACC GTCCCTATTA ATCATTACGA TGCTCTAGA AACCAACAAA ATAGAACCAA 180  
ACGTCTATT CCATTATTCC ATGCTAATAT ATTGAGCTT GCGCTGCTT TGAACACTCT 240  
AATTTTTTCA AAGTAAAGT CCTGGTTCG CTAGAGTACA AGTACCCTAG GTTAGCCAGA 300  
AGGAAAGGTT CGGTTGGATC CGGTACAGA AGAAATGGG ACGGGCCAAC CAAACCCAAA 360  
GTTCAACTAC GAGCTTTTTA ACTGCAACAA CTTTAATATA CGGTATTGGA GCTGGAATTA 420  
CCCGCGCTGC TGCCACCAGA CTTGCCCTCC AATTGTTCTT CGTTAAGGTA TTTACATTGT 480  
ACTCATTTCA ATTACAAGAC CGGTATGGC CCGTATCGT TATTTATTGT CACTACCTCC 540  
CTGAATTAGG ATTGGGTAAT TTGCGCGCT GCTGCTTCC TTGGATGTGG TAGCGTTTC 600  
TCAGCTCCC TCTCCGAAT CGAACCCTTA TCCCGTTAC CCGTTGAAC ATGGTAGCCA 660  
CTATCTTACC ATCGAAAGTT GATAGGGCAG AAATTTGAAT GAACCATGC CAGCACAAGG 720  
CCATCGGATC CGAAAGTTTA TATGAATCAT CAGAGTCGA GAACTTGATT TTTATONATA 780  
ATNCTCTC CAA 793

(2) INFORMATION FOR SEQ ID NO:286:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1240RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:286:

GATCTTAAAA TAAGATAGAA TGGTAATAAA TATCATTCAG GTACAATAGA TGCTGGTGT 60  
 ACTAAAGGAT TACCTGGAAT ATAATTATCA OGATGTUCTA AAGTATTAGG TGAAAAGAAT 120  
 5 ACAAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA 180  
 TAACCATGCA TTGGTAATCT ATCTAAATTA CCGTAATAC CTAATOGATT TGATGAACCA 240  
 TGTACATGTA ATAGCATTAA ATGCATAATT ACTATTGCTG CAATAATAAA TGGTACTAAA 300  
 10 TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCCTCATAAT 360  
 CATAGTACAA TATCATTTCC AATAAATGGA ATAGCCTTAA ATAAATTAGT AATAACAGTA 420  
 GCACCTCAAT GTGACATTGT TCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA 480  
 15 GTTAAATAA AGATAATAAC ACCAACTGTT CCATACAATA ACTCTAGGTG ATTTATAAGA 540  
 ACCATAATAT AAACCTTAC CAATATGAAT ATACATACAA ATAAAGAAGA ATGAGCACC 600  
 ATTAAGAATG CATATATCTA ATTATCCACC TATTGTACTC TCTCANAATA GTTCTTACTT 660  
 20 GATGANAAGC TATCCATATT ANAAGAATAT GCATACCTTA AAAATACCGT TAAATTTGAA 720  
 TACTAACATA ACCTATAANA CCNAATTCAC CATAATAATG AGAGGGTGAG GNGAACCAT 780  
 CNATCNATAC TAATTTAATT ATTGATTCTT TTCCNTTTT ATTATTAAAT TTTAAT 836

(2) INFORMATION FOR SEQ ID NO:287:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 860 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1240UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:287:

GATCTAGAAT TATTAAGTCA ACTATTAAC TATATCTATA ATAAATATGG TTTATCATT 60  
 AAATCATTAA AGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA 120  
 AATTATGTGA ATAAATAAAA TAAATATAAT TTAATAATTA ATAAATTTT AAATAATAAT 180  
 45 AAAAAAGATT TAATTAATTT ATATACITTA GATAATAAAT TATTAGATTT AAGTATCTT 240  
 AATAATATAT TATTAGGTAA ATATTTAGTA GGTAGTAATA TCCAATTAAA GGTAGACTA 300  
 TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAGGTAC ATTTAATAAT 360  
 TATATATATC AATGAGTAA ATTAATAAAT TTATATAAAT TAAATTATAT ATCCTTTAAT 420  
 ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAATGGA TATTTAATAT TAAATTTAAA 480  
 TTAAATACTA TTAATAAAT ATCTATAAGT AATTCTTTAT TTATTTTATA ACATTTTAAA 540  
 55 ATGTTTTATG TTTAAATAGA TAATAACAAT TAATAATAA AAATTAGAT GCCACAAATA 600

TTCCCATTTT CCTTTATGAA TCAATTACTT ATGGTTTCTT ATTEATTTTA CTATTTTATC 560  
 CITCTATCTT ATGTTTTTTA CCTAAGAATT TAANAATATA TACTOCTAAA TATATATTCC 720  
 5 NAAATTATAA TAGTTATTAA ATTTTAATTA ATCCANTATG ATCCTATTTT ATAAATATAT 780  
 AAGAANATTT TAATATATAT ATATGAATNT TATATONCON TGAACCAATTG NAATNNATTA 840  
 TAGTTTACAC CCCCTANATC 860

## (2) INFORMATION FOR SEQ ID NO:288:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 837 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1241RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:288:

GATCTAAATA TATATAATTT AATTATATAA GATTAATATA AACTTTTTTA TTATAATATT 60  
 TAAGTATTAA ATTATTTTAA CTATTATTAT CATTAATTEA TAAATTAATT ATTIGATTAT 120  
 TAATACTTAT TATATAATTA TTATATAAAT TACTTAATTC ATCAITATTA ATATTATAT 180  
 30 AATTATAAAA ATAATATTTA ATATGAATAC TATTTAGTCT ATGTTCAAAT TTAAATTTAG 240  
 TTATTAAAAT ATTATTAGAT ATTATTATTT TCTTTAATAA ATTATTAAAT AGATTATCAA 300  
 TAATTAATAT ATTATITATT AATTGTTTAT TAAAATAATA TATTTTATTA TTATAAAGAT 360  
 35 TTAATTTAAT TAAATATTGT AAATTATTAT TTTTATTATA ATATCTATTT TTATAAATAT 420  
 TATGTTGATT TATATTATTT AATCTTTTTA TAAGAATTAT TATTAAAATT AATTTTAACT 480  
 TTAATTTCTT ATTATTAAAT TTATATTTAT TTAATAAATT ATATTTCAIT TTATTTATTT 540  
 40 ATTTATTTAA TTAAATTAAT TATTEATTA ATATTTTATC ATTATTTAAT TAATTAATAA 600  
 AATATTATAA AGAATGTAGT TAAAAATACT TATAAAAGGA TCCGAACCTA TATTATTGTT 660  
 TATGAGACAA ATCTTTTACG CCATAAGCTA TATAGTTTGA CTATCAITTG AGANTTGGGT 720  
 45 NNNCCCCCTA TGTNNCATC CTGVTGTCCC CNCTAAANGA ATTNNNTTNT TNANANATGA 780  
 AAAANTTATT TATCAAAGAA TTTAATTTT TTAANAAGGG GNANAAGGAA AGACCOG 837

## (2) INFORMATION FOR SEQ ID NO:289:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1241UP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:289:

GATCTGTATA CTAGAGCTTA TTTTACTTCA GCTACTATAA TTATCTTTAT TCCTACTAGT 60  
 ATTAAAGTAT TTAGTTGATT ACTAACPATT TATGGTGGTT CATTAGATT ACTAACACCA 120  
 ATATTATATC TATTATCATT TTTATTTTFA TTTACTGTAG GTGGTTTAACT TGGTGTAGTA 180  
 TTAGCTAATC TATCATTAGA TGTAGCATTC CATGATACTT ATTATGTAGT ACTACATTTC 240  
 CATTATGTAT TAAGTTTAGG TGCTGTATTC TCTATGTTTG CTGGTTATTA TTATTGAAGT 300  
 CCTCTTGTTT TAGGTTTAAA TTATAATGAA AAATTATCAC AAATCAATT CTGATTAATT 360  
 TTCTTAGGTC TTAATATTAT TTCTTCCCT ATGCATTTC TAGGTATTAA TGGTATACCA 420  
 AGAAGAATTC CTGATTATCC TGATCTATTC CTAGGTTGAA ATTTAGTATC TTCAATTGGT 480  
 TCTATAATAA CTATTATATC ATTAATGTTA TTCTTTTATA TTATTATGA TCAATTAATA 540  
 AATGGTTTAA CTAATAAAGT TAATAATAAA TCTATTAAAT ATATAAAACT ACCCTGATTT 600  
 TATTGAATCA AATAATATTT TCTTAATGAA TACTACTAAA TCACATCTAT GATTTATATG 660  
 AATCACCCT CTTAATCNAT CAATTAAACC CTCTAATCCA ACTTTAAATA NNCTTAATTA 720  
 TAAATTANNA ATAAATTTAG TGGANAATTT AATNGTAANC AATNTTTTNA NGGANITTTAT 780  
 CTCNNVCCAA CCGAACTAC TTTTATCCTT AANNAAAACC TTAAATNAAT GGACCNCANA 840  
 NTCNNAACNN GTTTTC 856

## (2) INFORMATION FOR SEQ ID NO:290:

35

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

40

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1242RP

45

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:290:

GATCAAGTGC TAAATGTCCG GGTACATTAG TGCACCCGTA CACCGCATTG CGACATTACG 60  
 ACGCTTCTTG ACTAACCAGG TTATCAAGTG TATATAGTTA CATACGAACG TCTGGTACAA 120  
 GGAAGAGCCG GCCGGAAGTC CACTTCACCC TTAAATTGCC ACATTTCAATG AGCATTTACA 180  
 ACAGAAOCAC AGCTGTAAAC GTTCTOGAA CTGGTGAAGT TTCATATGT TCCTTAAGGG 240  
 CCCTTGATGT TCCAGTTCAA GCTAGTTCTG TTGGGAGACT CGTGGTCCG TAAGTCGTCA 300

ATTGTTTCATC GCTTGGTGAA GGATTGGTTC GATGAGTTCC GGGAAAGCAC AATCGGGGCC 360  
 GCATTTCCTGT CCGGTACCAT CAAGCTGGCG GACCAAGAG ACCCAATGAT CAATTTCAGA 420  
 5 TCTGGACAC CGCGGACAG GAGCGTACA AATCGCTGC TCGATGTAT TACAGGAATG 480  
 CGAACCGCGC GTTGGTGGTG TTATGACGTT GACACAGGAG GATTCTCTAG CAAAGGCACA 540  
 GAGCTGGGTT GAACGAATTA AGAGCAGGTT GGTGACGAGA ATTCTGGTAT CTCCCTGTT 600  
 10 GGGCATAATT GATTNCGGA NGAGGACCG AACCNAGGT ATTGACNCA GAACNAGGC 660  
 TCCCCAACC CNGGGTANT TCCCNAGGT TTNNOCAAA CCGCGCGGTT NCGGAATTIN 720  
 TTCCNCGGAT TGGGGGAANN CTAAAACNGG GCAATTCNT NCGGGCCCCC CCGCNTCCC 780  
 15 ANTTTCNTT CAAGNCCCC CAAAGAACAC CCTGGGNTT ACCCCCTCC N 831

## (2) INFORMATION FOR SEQ ID NO:291:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 878 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1242UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:291:

GATCTTGTCG ATTGTGAAGG AGGAGACGAA AAACGCTACC ATCAGTGTTC CCGTCGAGAA 60  
 CAAGCAGCTC ATCCCATCA TTTCGCTGGC GGACGTGGAG ATTTCCGAGG ACGTGACTGT 120  
 GAAGGCGTTC CCTAACGGCT CTGAGAAGAT CGTTCCTATG GGGCCACGGG ATGAAGCGAA 180  
 35 GGAAGCAAAG GTGAATGTC AGAATTACTT GAACACTTCA GCAAGCAAGG TATCTGAGAA 240  
 AAAGATTTCG ATTCTCTCCA AGTCCAGCC TCTGATCGAT GCAGAGGATG TCAGCGAGAA 300  
 ATACAAGGTC TCGTTATCT TCCCAACGC CCTTGGTATG GATACTGTGT CGTTCACGG 360  
 40 ACTGTCCGCT AATCTTGATG ACGCGATGC ATATGCTGC CAGTGTCTA AGCAGTACAT 420  
 GGTAGAATCT TTGGAGGTAT CCAAGCTCA CGGAAGAAT GTGCTCATG CAAAGAATTT 480  
 AATGTTCTAC TTGCCAGTT ACGAATCCT CCAAGGATAT TAAGGAATTC GTTCCAAGGG 540  
 45 ANITGAANIT TTGNTCTACC CACTCCCGA GGGATTTCG CANTTTAAAN AAGNTTTNA 600  
 ATNCACANTT TTTCCAAAG GNGAATTTG GGNACAAA AAAANTGINT TCCCCGNA 660  
 TNCCTTATTT NTTAACNAC CCCCCCCC NGTTCCNCC GNTGAANAC NAANTATAC 720  
 50 CCTTCCCCC AGNATTTAC CNGGGCNIN CAGGGANTC CACTTTTTIN CTCCGGANTC 780  
 AANAAAGGA AANACNENN GCTTTGCCA GNTGANAAA AAATCCNCC CCCCCAGGG 840  
 55 TAAGANCCN GNAAGGNG CCGTTTGA GAATNCC 878



## (2) INFORMATION FOR SEQ ID NO:292:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1243RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:292:

GATGGCTAAT CCGAGGTTT GTTGTGAAGT CTGIGATCAG TTGGTCTCC ACATCTTTGA 60  
 GAATCTAAT AGCCTCCGAT GGCAGTTCCT CCAATTCAT TCGACCTGG GCAGACTGTA 120  
 TCTTTAGAGA GTAATTTTCC ACACACAAAG AGTCAATCTT GTCTGAACA TCGTCAATCA 180  
 TATACTTCAG TACATGGTTC ATGTTTGGTA GATTCACTGA GCTTTTGAGT GGGCCTTTTC 240  
 CTAGCGCGGA AAGGTGCCC GCTTCATTCG ATGAGAAGCC TAGAACTGAC ATCATGGGGT 300  
 GGCAGCATGT CTTCGGCAAC TGTGACAACC AATAATTCAA GACTGGGGG CCTAGATAAC 360  
 AGGGCCCTTG CCGGCTGAG TCATAGCCTG AAGCCTCCAA GAAGGATTC CATAGGTTAA 420  
 CATAATTATC AGCCTCTATC GGTGAGAAIT GAAGTGGAT TAAGTAATGA TGCTGCTTTG 480  
 GGATTTTAAT CTGATATTCG ACATCATTTCT TTGTATGAG GATACAAAGG TTGAAAAGTG 540  
 GGATGATATC AAGAAGTTCT CTTCGGGTGA AAGTCACACC GTTGACAGT TGGAGCTTTG 600  
 CGAATTTGTT GGGGATCTA GATGCATCG ATTGTTGCC AGTTCCCTGG TATCTGGCA 660  
 GACTGTGTTG GATATACTTT GGAGATCCCT TGAAGGGATG CACTGCCAAT AGAATAACAC 720  
 CTGAATCCN CTAGTGAATG ATAGGTTTAC CCGAACCCCC ANTTTIGATA CCGGCAGAG 780  
 TTGTGTCATC GGGCCCTTCC NCTTCTGCC CACATGGCCT CCNATTTTAA TCTGAAATG 840  
 CTTA 844

## (2) INFORMATION FOR SEQ ID NO:293:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 865 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1243UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:293:

GATCTGTCC CACCAAGGGC GCAGGAAGT GTACTGGCCT TTGAGATCA ACTCTGTGAG 60

GACGTGATC TTTTCGTGT AAAAAGGCGG GAAGCCGCAC AACACGGTGT ATAGGACGCA 120  
 GCGATCCCC CACATGTGA CCTTCATGGA GTAGCGTTG TCCTTCACCA CCTCGGGCGC 180  
 5 GGTGTACCCG ACAGTCCCCG ACGGCGTGT GGTGTGGTA GCATAAATTT GCTTGGAGAG 240  
 TCCGAAGTCT GCGAGCTTTA TCACACCGAT CCGCCGCTC CCGATGCCAG GTCCGAACAG 300  
 GCGCTGTCT TGTTTGTCT TTGGGTGTC GACTGTCTC AGCTGCTGC GCTTGTGGG 360  
 10 TATAAATCA ATTGGGAGA ACAGCAAGTT TTCTGCTTG ATATCCCGGT GGACAATGCC 420  
 AAGCGAGTGC ATGTGTTTA CCGGAGTGC CAGCTGCTG ATTACATGTC TAGAAAGTC 480  
 CTCGAAAAA TAAGTGAGTC GCAGATTTC TCCAAAATC TCCCCCGG GCAAGCAGCT 540  
 15 CCTGGACTAT GAAGTAGTAT GACTGGTCT CCTTGAAGT CGATAAACGT CACAATGTTT 600  
 TCGCCGAGG ACACCGCTT GTGGATGGT ATCTCTTCA GAAGTGTCT CCGATGTGC 660  
 CCTGTTTGC CGCTCNC CTTTNNNC GGGCCCCC NGTGGCCC ATGTTAANA 720  
 20 GGNCCCTTT GCTGATCCT TTGAGGGNC CGTTTNTAC NNNNAAGTN CCTTTGGN 780  
 CGNCCTCAG CGNCCNNG ANNCCNNG AAACCCNCC CATTNNCC NAATTNTCC 840  
 CNCAANCCAA GNNCCGAAC CCCC 865

## (2) INFORMATION FOR SEQ ID NO:294:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1244RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:294:

40 GATCTGCTT TATCAAGAG GCCATCCGAA CTCCCCCGG GATGTGTTG AGAGGTAGCG 60  
 AGCTCACCTC CACAACCTC TCATCTGAAT CGTCTTGTA TGTACTATCT AGCTCTTCAG 120  
 CGTCGGGGA TGCAGATTCC GCGTGTCTT TCACCTGTTT CAGCACGCC TGTGGTTAA 180  
 45 GCTCAGAGAG GCAGGCATGT GTCCACCCC CGTATATCTG GCCCAGGTAA TACCCGTTG 240  
 CCAGCGAAGC CATGTGAAG CTCAGTATGA ACGGTAAGTT GATACTGCC ATCTAGTTT 300  
 CTGTTTGGTA TTCTGCATGC TGAGTGGCA AGCCAAGTTG GTTGAATAAT CCTTCAAGCT 360  
 50 GACAATGCT GGTCTGCGC GCAGTTCAC ACAGCAAAC TCAGAGAGAG GTATAACCC 420  
 CATATATAGG AGGAGACTAC TCTATTCAT GCTATCTTT TCAGCCACA GTTCTCTGC 480  
 CTGCAAAAT GTGTGTGAT TCCGCCACA TTTGTTCAT CGTCTGACA TATCTCTGC 540  
 55 TTATGATTG GAATCGTGG AACATTCCG CGCCAGCTG TTAGATTAGG CCACACGCC 600

CTTGTTAGAC CATAGTGGGC GAGTGGGATT ACAGGTTATC CNTOGAACAC CATCCGTAGA 660  
 ACCAGTGGCT ACNCTCCGGN GTTAAACCCC TAGGCTNCCC TTCCACTNTC CGATAGTCCA 720  
 5 TACGGCGAAT TTGGGGGGCC AAAAAAGTGC CCNGCAGGAA CNCAAACGAA GNNTCAACGC 780  
 CNIGTINTGG GCGGTGGCN TTTCNCAAA NCAGTGGTA NTINLANCC NGCCNCTTAT 840  
 10 TMTCCCCAT T 851

## (2) INFORMATION FOR SEQ ID NO:295:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 859 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1244UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:295:

GATCAATCTG ACAGTTGGAT TGATACCAGG TGCTATCTCC TTATCAGCCT TTACAGTGAC 60  
 GAAGGAGGGA TTGGATTGGG GAATGGAGAA TAAAGATATT TTTGATCCAT CACCAGAAGG 120  
 ATTTGATCC TCTTTCAGTG AGCATGCCCA ACTTTTACTC TOGGAACGTA TAATGGGAAA 180  
 30 CTTTCTGGTT CCAAAGTCTG GCATCTGGAA TTATGCATTT ATGGGTGCTG GATTTAACAG 240  
 AGAGCTAAGT TACGAGCTAT CTCTGACAT ACCACTGGGA TTTTATGATG AACAGCACCG 300  
 TGCAACGCAT TTCTTACAAT TCAACGAAGT GGCAGCTGAC GATACTTTGG AAGCAGAACA 360  
 35 GGAAGATTFA TTCTCTAAG TACATATTAA GGATAGAGCC AAACCTGCAA CTAGCTTCAG 420  
 TTGGGTATGA ATCCCATATA TGTATATATC AATACACGGG CCACTCATGG CTGGTGACCC 480  
 ATTTAAGCAA ATACCATATT TTTTAATGTT GCGGTGATTT TATAATCTCG ATATCATGAT 540  
 40 TTTATTTATA GGAGATGACT TTTCCTCTA CAACGCCACA TTATAGAAGA CGTCAATGC 600  
 AGCACCCAGG CTGAAGCCAG AACGGAAATG TTGGAACCAG AACAGGCAGG TTTGAATAGC 660  
 TCGACATATG AACCTCCCCA GAACATGTTT TTTTGAACA TCAATGANT TTCTGCCAAA 720  
 45 AACANGAAAA TGGACNCCNN GCATCATTCA AAAAAACCN TCCTTGAACC TGACAAAAAA 780  
 TATGCACCCN GATTTTGTGA TCACGGANNG TTTTCTTTAC NCCAATTAAA TAGGNCCCC 840  
 50 NGAGATTTTT ACACCCNCC 859

## (2) INFORMATION FOR SEQ ID NO:296:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1245RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:296:

```

10  GATCAAAAAC AGAGTACCCCT CCGCAGGAAC TTCCCATATG AGGCCAGAG AGAACAACAT    60
    CCGCGATCAC CTATATCAAC AACGGAGACC TTGGTCTGCC GAGAACGTCA CAGCTTATCT    120
    TATTATOGAT CGAATGGATG TTGGAAGAA GATACAAAAT AACGCATAAT TGCTGAATAT    180
15  ATTCACGCT TCTAACGCAA ACGACGAGOC TCACGCTCAG ATTCCATCAA GACCAAGATG    240
    TCGTCTCTC TAACITGGGC CTTCAGTTT CTGACAATGG TTCTGGAAGT GTCTGCAAG    300
    AACTCAAGC GGACCTGGGT GACACCACCA CGAGAACGG TTCTACCTAG AACCTTGATA    360
20  AACCTAGCTA GAGTGACTGG GGTCTTGGAG TCCATTTTGA TCTATTCCTT CTTCGATATA    420
    AAATATCTAG TAAAAAGTGC TGAATAGGTG AGAGGAAGAT ATCATGAACA GCGGTTTTTT    480
    TTTGATGCCC CGAAAAATTT TTCAGTCTG CGATGCCAT CCGAGGTGAA ATGTGCTTGG    540
25  GTTCTTGAAA AATCAGATCA TACGATAACT ATGGTGCCAC CCAAGGCCT TGGCAGCAGC    600
    GAAGTGGCG AAGGTTAGCC ACGCCAGAAC GAAACCTGAG AACAGGTAA GCTCAGGTGA    660
    ATTGTTTGGT TCTATTCCT TACAGTTCAT CTTCGGTAA TTGCAGTATC CGTTGATTCC    720
30  CCNCAGCTGA CCAGCGTTIN ATTCCGTTT GAACTTTCAG AGNTCNIGAA ACCCTNGTNT    780
    TTTCAACCCN TGACACNAT ATNCCCCCT TATATGACTT CCGTGNATNC CCG    833

```

(2) INFORMATION FOR SEQ ID NO:297:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 864 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1245UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:297:

```

    GATCCGGGTA ATACAACGCC TCGGACCCCT CCGGGGCTAA CGAGAAAATC GCGCTAAGCT    60
50  TCCAGCTTAA TCATAATAAA AGGGGCATTG GTGGAAGCTT TCTGGTACTT ACGCGAGTAA    120
    ACAAAAAGCG CAAGGACGTT TCAGAAGAAG CCAGAAGCAG CAATGAGCGA GATCAACTCG    180
    ATCATTCACA GAGTGAATGT ACTGGTCTCA AACTGCCCA AAGAGAAGGA TCCAGGCTTG    240
55  GAGAAAGAGT GCGCGCTGAT CAAGTTGGC GGCATGGTAT CTAACCGOGA ATCGGGCTTG    300

```

TTGTTTGGAG AACTGGGCGA GCAGATGGAT CGCACAGGGG TGCTACGGCA GCCATGGATT 360  
 GTGAGATTTG TTGTGGCCTT GGGCAACGAG CTATGCGGGC GTGGCGAGGT GGGCGAGAGC 420  
 5 TTCTGGGGCA AGATATTGGT TCCGTGGAT GGACAGACCC CGTTATTGAC AGTTACTAAC 480  
 AAGAATCCAG GGTGCGAAGT TTTCGGTAA TGTTCGGTC CATGCGCGGT TGGTGGAGGC 540  
 GCTGCTGGAC GGGGCTTGT CCGGTACGGC TCCCTGTGG TGCCAGAATA TGGCGTTGTT 600  
 10 GCTCCAGCTG TCCTATNNAC CNCCGGATT NCCCGAAGT TGNIGNCCCC CCTTTACCCC 660  
 CCCCCNNCN AGNATGGTGG GNGACNNTT GNNCGNTNC CAACTTCCIT NNNCCCCCT 720  
 TTTTGTGAC NITGAANCA TTTTCCCCC TINAANTCAA CCNACNGIT NNNCAACCC 780  
 15 CCCCCCCTT TGGGAAAAN AGNAAAAAN ACCTTTTCCA CCGNGATNC CCTTTGGNCA 840  
 NCTGGAACNG NNNVNTTNC CTC 864

## (2) INFORMATION FOR SEQ ID NO:298:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 830 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1246RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:298:

GATCAACAAT GATTGTGGCG ACGGGGGCG GGGGTTCAA ATTCTACGAC GTGCTGCTGT 60  
 CGGAATTTCC GGGGTGTCA GATATCTCC GCTGGACGA GATGGACTGC CTGACGAAGG 120  
 35 GGTGGACTT CTTCATCCAC AAGGTGCCCT ACGAGGTGTT CACATACAAC GACCTGGACG 180  
 CGCAAGGCAC GGTGGATGCG GTGGCGGATG ATGAGATGTA CCGGTACATG CTAGTGAACA 240  
 TAGGATCCGG GGTCTGATT CTGAAGGTGG AGTCGCCAA CGAGTGCAATG CGTGTGGGCG 300  
 40 GCTGCTCATT GGGGGGGCG ACGTTGTGG GACTACTGTC GCTAATTACT GGGGGAAGA 360  
 CGTAOGACGA GATGCTGGCC TGGGCAAAAC AGGGCAATAA CGCGAAGTIG GACATGTTGG 420  
 TAGGGACAT ATACGGCACC GACTATGCGA AGATCGGCTT GAAATCCAGT AATATTGCAT 480  
 45 CGTGTTCGG GAAGTCTTC CAACGGGAGA GCGTCAACCG GCGGCTGGC GGGCTGACT 540  
 TGGGGTCTG CGACCTGAC GTGTGAGATC CGAGATTGGA AATGAGAAAT CCNNCAGGC 600  
 GAATNTTCC ATCCTCNTG TACCATCTC CAACAAATG GCCAAATGCT TNCIGCAGCC 660  
 50 AAATCCCCAA CTCAAAAAA NNTCTTTGG GTCTTATNT CCGCGCTTT TACCCCTGA 720  
 CCTTTACCC CCCCCTAAT CNGGTNAAN GNTTTAACA NCCNCCCCC TNAGGNTAA 780  
 55 GGTNNVGGCC CCNNGGCGCT TMTGCCCCA AAAATTTCC NNCNVTCTN 830

## (2) INFORMATION FOR SEQ ID NO:299:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 861 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1246UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:299:

GATCGTAGAG CGTGAGACGG CACCGGCGGA GGGGOCAGCG CGGACGGTIG TGCAGOCACG 60  
 GGGGTTTCTT GAGCTGTACC GGGGCGCAGC GATATCTAGC TGGGCGCAAC GGCTGCAGAA 120  
 GAAGAATGGG CAGCGCAGGC CGCGCGCGGC GGGGCTGGCC GCAAGCGAGG CGGAGAAGAT 180  
 CCACAAGGAA AACATGGGCT ACATOGAGGG GCTGTGGGAG GAGCAGCGGA CGGCAGAGCG 240  
 CCGCGAGCTG TTAGAGAGCC TGGACCCCAA GGTGCTGCAG GCGTTGTACC GTCGTTTGA 300  
 TGCACGTGCA GCAGCGGAGG GAACGGCGGC CTTAGTGGCG GAAGTGGAGG GAGCGGCGAG 360  
 CAGTGGGTG GGGGCACTC GCGAGGAGCC GATGATGCCG CGCTGGATG ACGGACCGT 420  
 CGACGCGCGG CTAGGCGGCG CACAGGCTTC GATGCCAGAG GCGCGCGCCA CGTAGGACCT 480  
 GCGAGCGCGG CTGGAGGATG CGGAGGACAT CGCGCGCGAG GAATACCACT TCATCAGCAG 540  
 ATGGACCATA TGAAGGACAG GACTTGCTAC GAGATATCCA CTTCCTCCCG AATGAGACTG 600  
 TGGCGCGCAG ACTGGACATC AACGACCCCA ACTTTATGAG CAGCTGCACG AGAATACTTC 660  
 CGGATNTTCC GAAAGAAANA AATACTNGA ATGGATGAAG GCCACTGAAC CCGACACTTC 720  
 TTCTNCTAAC TCGCGATT TCGCGATTG CCTCCAACTT AGGGGCGATG TCGCGCGCGC 780  
 CGGGAATTIN NTCCGNNNA CNGCTCNC CTTTGGAAA CCGCGCTTIN CCGGCTTCC 840  
 TCGCATTTGC ACNTCCCA C 861

## (2) INFORMATION FOR SEQ ID NO:300:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 810 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1247RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:300:

GATCTGGCGG CGCAGCTGCG GCGTGTATT GGTCCCTGC GTTACTGTGG CGCGCGCGCG 60

GTGTCTTATT CGGCATCGCG TAAGCGTCAC TAAGCCCTTC CAGGACGGGC ACAAAGGCG 120  
 CAGGGCGCTC ATAGAGCAAC ACAGCGTCTG GGTGGGAG CAGTGCATC CGCGCGTGT 180  
 5 GCTTGCCTAC CGCTCGTGC GCGTTGCCCC GCTCTGCCAC CGCGGCAGCC GTTGCAGCCC 240  
 CGCGGGCGGC GGGCGCCCTG TGCCTGTAG CGGCACGGCC GCGGGGAGC CTCGCTTGC 300  
 GGACCGCTTT GATGACCCGC TTTCGCGCCG GCGCGCGGC GCTCGCCGA GCGAGCGCA 360  
 10 GCGCCGCTG CACAGCATC AGCATCCCAT CCACCGCTTT CCGTGTCTT TCACCAAGC 420  
 TGTUGCTGA AGCAGACTCT GCGTATCTC CTCGCGCTG GACGAAAGC CTCGTGCTG 480  
 CTCGACTGC TCTGCCGTA CTTCCGTGA AGTACGGCG CAGTGCAGC GCGCGCTTG 540  
 15 CCTCCGCGC CGCGGGGGC GCGAAGGCA CGTTAGGGC CGGACCGCC GTCAGACCT 600  
 CCTCATOGAA TCGAAGCGC TCGCGCGTC GCGCAATG CCGACGGAAC CAGCCCGCG 660  
 GCGGTTNCG NGCGCGCGC GCGCCCTC TTMTNAAAC GACNACCTT TGNAAACCG 720  
 20 TTACCCNCG CNNTCAAAC NCGGAGAAA ATTTTCGCG ANNNNNNNN CCCCCCCT 780  
 NNTCTNCGA ANAANGCCN GCGCTNCG 810

## (2) INFORMATION FOR SEQ ID NO:301:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 630 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1248RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:301:

GATCAGATAC CGTCTAGTC TTAACATAA ACTATGCCA CTAGGATCG GGTGGTGT 60  
 TCTATGACC CACTGGCAC CTACGAGAA ATCAAAGTCT TTGGTTCG GGGGAGTAT 120  
 40 GGTGCAAGG CTGAACCTA AAGGAATTGA CGGAAGGCA CCACAGGAG TCGAGCTGC 180  
 GGCTTAATT GACTCAACAC GGGAAACTC ACCAGTCCA GACACAATA GGATTGACG 240  
 ATTGAGAGCT CTTCTTGAT TTGTGGTG GTGGTCATG GCGTCTTA GTGGTGGAG 300  
 45 TGATTGTCT GCTTAATGC GATAAGAAC GAGACCTAA CCTACTAAT AGTCTGCTA 360  
 GCATTGCTG GTTGGCACT TCTTAGAGG ACTATCGTT TCAAGCCGAT GCAAGTTGA 420  
 GCGAATAACA GGTCTGTAT GCGCTAGAC GTTCTGGGC GCACGGGCG TACACTGAG 480  
 50 GAGCCAGCA GTATAACTT GCGGAGAGT CTGGGTAAT TTGTGAATC GTCCGTGCT 540  
 GGGATAGAG CATGCAATT ATTGCTCTC CAGGAAGAT CCTAATAGC GCAGTCATCA 600  
 55 CTTGGTTGA TACTTCCCT GCGTTGTAC 630

## (2) INFORMATION FOR SEQ ID NO:302:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 700 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1248UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:302:

GATCGCTAGA TGCCAGGAT GAGACTGTTC AGGTAGGCA GGTGTGTAT GCGCGCCAG 60  
 AGGGAAACC AATGACTTTG CATAGAACAA ACCCGCCATC ACCCATGTCT TCCGTGTAT 120  
 AGAGACTAAG GATCTGAGG ATCCCTTAGC GACTCTCTCC ACCCTCCAC GAGGCCATTG 180  
 AGCTCTTAGG AACTGCACAA ACCTACTCGA ACTCTGTTTC CAGACTTCTT TCTGTTTGTG 240  
 TTCAACTGCT TTCCATGAA GTACCCCCCA GCTATTTTTC CTTACCCGCC TGGTGTGTGT 300  
 CTATATACCC GGTGTATTTT TTGATAAAAA ACTCAGCTCT TCCCTACGG CAGAAATATA 360  
 TATCCAGTCC TTAGCGCCAT GCGAAAATCT GCTTTTTCAC CGCTGTTTCT CCCAGTCTTA 420  
 GCACTGCCAG AAAAAAGATG TATGGCGTAT AGGCGCTGGC CCGCGGAAA AAAAAAAAAA 480  
 ATAGAAAAAT AGAAAAATAA AAAGAGTGG GCGCCCCCGC GGGCAGACA AGAAAAATA 540  
 GCGGCCACC CTTCCCAAGC AGAGAACAG GCGAGACATA ATAAATCCA CACCAGGGAA 600  
 GAAAGTCTTG TGCAAGCTCC CGGCTCATAC GCTGCCATCT GTTCCATCCG GNTTCAACC 660  
 AGTATGGATG TTCAAGCATG TCCGAGCTC CGCTGCCCTG 700

## (2) INFORMATION FOR SEQ ID NO:303:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 837 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1249RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:303:

GATCATGCAA CATTTCTTCT TTTCGGCTT TCTGCTGTG CCGGAGGTG TGTCCCGCC 60  
 CCGCACTCT GAGGAAGAGC TTGCGACTG CAGCGAGCAT GCCACAGTA CCTGGGGCGA 120  
 CTGCTGGGC ATTCCGATAC CCAGCGGCT GCGCGCTCC GAGGCACTC GCAAGCATTC 180



TAAACCACTT CCATTGATT GAATCAAATT ATATATACCA TTAAGTAGAG CTAACATGCG 240  
 AACCTTAGCT GGGAGCAGT AAAGATTGGC GGTTCOCAGA TCAGCTTCTC GGGGTGATC 300  
 5 GATCGCCTTT TCTTCGCTAT CAGCTTCTCG TACCTTAGCA GCACGTCTC GTTCAGGTAC 360  
 AAGATGTGCT GGCCCTTGTA ATATGCACTT ATGTTAAGAG CCTTGGCTGT GTGCAGTATG 420  
 TCTGTAGTCG TGAGCGATGT CATGCTACTG ATTTTCATCG TCGTGATCTC GGTGCGCTTT 480  
 10 TCGACTAGCA GCTTGATCAG GGTATCGGAC CAATAGGCTC TGTAGAGAGC AGCCCAAGAT 540  
 CAGAGAGCGG CTCTCCGGC ACCCAACTTG TTCTCCTTCT TAGAGAGCTC CATAAGAAAC 600  
 TCAATCAGCA GCGTCGCGTA CCCCATCGC TGCTACTGAG GGAGCGTCCA GAATACACGC 660  
 15 CACATTGTAC CCGTCGCGCA NTCCTTTCGN TTGGANAATN CCCACCAAGT NGTGCCCCA 720  
 CTCCTCCCC TGTTCTCTG CANTAAAAAA AAGGTCAANT TCCTATNACT CNTGTGNTCC 780  
 AAAAACTTT GANAAAGNIN GTTGCGNACC ACTTCCTNNT NCCCCGTCAA TTCAAAT 837

## (2) INFORMATION FOR SEQ ID NO:304:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 853 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1249UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:304:

35 GACCTGCCGA TGGACNGCAG TTGGCAGGTG ACTGCCCTAC GGTCTTTAGT CCCCCCAAAG 60  
 CGGATGGGCT TTGTGGGCAC ACCCAAGAAC TTGGCAATGA TGTGACACAC GTCCATGGTG 120  
 TCCTTATCTT CCTTGTACAT TGTGAAGTGC ACCGAGTTCT TGGAGGGGOC GTACCCCCAG 180  
 40 TTAATGACAC CGTTCTGTC TCTGTCTGTC TCCACATAGT CCTCTTTGCT GACTCTGGTT 240  
 TTACGGTTGG CCAGGCCAAT CTGGAATGTG TTGGACGCGG AAGTGACCGA TTCAAGCTCA 300  
 TTGTTGAACG CCTTTGTTAG CAGCTGGTGG ATCTTCTGTC GTGCAGCTTT GTGTCAAAG 360  
 45 CTCCTGGTGG TTTCATTTT CGTGACGTC CTGTACACGG CCTCAATCTG CTGCATGTCC 420  
 TCCTCGCCCA GTAGCTCTAC CAGCTGGTTC CCGAGCTCTG CCTCCACCGC GTGGTTGTGG 480  
 CGCCGTTCCG GCTCTTCAGC CTCCTGTGCC TTCACCTGGT CGGCAGAGGT TTGGGTTTAG 540  
 50 CAGGCATTTT GAACCCATTG TCCCGCAAGT ACACCACTGT TCCATCCTTC TGGATCTCAT 600  
 TGACCATGAA GTGGGAATAG CGCTGCTTGA TCTGCCCGCT AAACCTTGGT ACTCTGCTGA 660  
 GAGGTACTCT GTGATCCAAC GTGATTTCT TGAGTCCATC GGTCTCCGNT TTGGCCCCCT 720  
 55 NCNCAAAAG TTCTTGGCTG CTCNNANCC GCTCTNTAAT CCCCCGAAAN TCTGTACNNT 780

TGNCNATTTC CNMNNNNOC TACCTNAACC CTGTGTNAAC CTTCACCCN ANAANTCATA 840  
AATATTCCCC NCC 853

(2) INFORMATION FOR SEQ ID NO:305:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 834 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1250RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:305:

ATCTTAATTT AAAATTTTAA TTAATCTATT ATAAATTTAGA AATATATAAT CTAGAGATAT 60  
ATAATCTTAA AATCATAGGT AAAAATACAT AAGATAGTAA GAATAAAAT AGTAAAATTA 120  
ATAGAAAACC ATAAGTTAAT TGATTCATAA AGAAAAATGG AATTATTTGT GGCATCTTAA 180  
TTTTTATTAT TTAATTGATT ATTATCTATT TAACATAAAA CATTTTAAAA TGTATATAAA 240  
TAAATAAGAA ATTACTTATA GATTATTTAT TAAATAGTAT TTAATTAAAT TTTAATATTA 300  
AATATACCAT TTTTATTAAT AATAGATTA TTAAGTTTAT TAATATTAAG TGATATATAA 360  
TTTAATTTAT ATAAATTAAT TAATTTACTT CATGATATA TATAATTAAT AAATGTACCT 420  
TTCATAATAT TTATTTTAT TAGCTAGTA ATATTCTAT TTAATAGTCT ACCCTTTAAT 480  
TGGATATTAC TACCTACTAA ATATTTACCT AATAATATAT TATTAAGAAT ACTTAAATCT 540  
AATAATTTAT TATCTAAAGT ATATAAATTA ATTAAATCCT TTTTATTAT TATTTAATTA 600  
TTATTAATTA GTAAATTATA TTTATTATTT TATTAACATA ATTTTTTGAT AATAATATAT 660  
CCATATTAAT TGGTAATTTA TTAATAATAT CCTTTAATGA TTINATGATA ACCNTATTAT 720  
TATGANATTA GTTAATAGTG ACCTTAATAT CCNATCCNA ATATAINAT TTATTINTAA 780  
NAACANANAA CTTCITATIN CATAATTANT TINANTATIN ACCNTNCCN NNNT 834

(2) INFORMATION FOR SEQ ID NO:306:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 847 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1250UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:306:

GATCAAAATT TCAACAATTT CCATTTCATT TAGTACTACC ATCAACATGA CCAATTGTTA 60  
 CATCATTTAG TTTATTAGGT TTAATAATAA CTTAGCTTT TACTATACAT GGTATTATTG 120  
 5 GTAATATTTA TCCTTTATTA TTATCTTAT TAGTAGTTT ATTACTAATA ACTTTATGAT 180  
 TTAGAGATAT TGTAGCTGAA CTTACTTATT TAGGTGATCA TACTTTAGCT GTAAGAAAAG 240  
 GTATTAACTT AGGTTTCTTA TTATTGTGTG TATCTGAAGT ATTAATTTTT GCTTCTTAT 300  
 10 TTTGAGCTTA CTTCATTCA GCTATAAGTC CTGATATTCT ATTAGGTAAT GTTTGACCAC 360  
 CAGTAGGTAT TGAAGCAGTT CAACCAACAG AATTACCAIT ATTAAATACT ATTATTTTAT 420  
 TAGCATCAGG TCTAACTATT ACATATAGTC ATCATGGTTT AATTGAAGGT AATAGAAAAC 480  
 15 ATGCTTTATC AGGTTTACTT ATTACTTTCT GATTAATTGT TACATTGTGA TTATGTCAAT 540  
 ATATTGAATA TAGTAATACA TCATTTACAA TTACAGATGG TATTTATGGG TCCAGTATTT 600  
 TTGCTGGTAC TGGTTACATT CTTACNTATG GTTAGTTTAC TAATTAGGTA GGTNCTATTA 660  
 20 NGAANAACAA GAAATTNOCT TTAACNCCN CCCCCTCGTT NGANATNNA CCNCACCTAT 720  
 TATTACNNTT TTINAAATA NIGAANACCC CANNATTGTT NTAANGAAG GANTAACGTN 780  
 25 NACNCACCN TAGNNTTTNG GTCCCCCCCC NTGCTACCCC ATTTTGNCCC CCCCCACAN 840  
 AAOCCCC 847

## (2) INFORMATION FOR SEQ ID NO:307:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 825 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1251RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:307:

GATCAGGAGG GTTTTGGGT GCTGCGGAC GCGGGTTAG AGGTAATGCT CCTGCGAGAG 60  
 GATGACAAGA CTGTCCCTGT GTACCCGGAA GTCCAGAAT AGTGTATACT ACATAGTCAT 120  
 45 AGTTATAATA AACAAAGCCG GCGGGCTCT AACGAATGG GGAGTTGCC ATGCCACCG 180  
 GCGCGCCGGG GCGCGCGGG CGGCCAAAG GCGGTTCCA GCGGCAACG GCGAGGAAAC 240  
 CGGGCGGCT GCGGGGTCC GCGGGTCCG CGGGTGGAA CTGGCCGCG TAGGGCAGCG 300  
 50 GCGCGTGGG CGTTGTAGC CGGGATCGA ATATCATGCC GCGTGGGG TTGGGCGCG 360  
 GAAAGGGTC AAACGGGTT GCGGCTTCT GCGGCTTG ATACAGGTG CTGTGCGGT 420  
 AGCTGCAGG GCTGOCAGG AGCGCTGCG CGCGCGCG CGGGGGGAG AGAAGCTGCT 480  
 55 ACTGCTCTC GAAGCCAGG ATGTCTGCTG GCAGCTGCG TCCAGGAAC TCGCGCGGA 540

TTGGCGGAGG CCGCCCTCCG CTGAGGGCGT CNTAATCACC GGGCTGTGCT TTTGGGCGGG 600  
 GCTTCTCNIC CCGCCACCAG GGNAAATTC CINGNAACT TNOCGAACTC CNCCCCCTTA 660  
 5 AAAGTGGCCN CNGCCCTTTN CTTNNNGCT NTCTCTCTGC ANCCCCNMTT CCCCCCTAAN 720  
 ACCNCTTAC CCNNTCTNT NGNTTNNNC OCTACANCT TTNNOCTNC TCCCCCNC 780  
 ATNCTCTNT TATATCNAA AATTCMTN CTTTTACCC CCCCC 825

(2) INFORMATION FOR SEQ ID NO:308:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 856 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1251UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:308:

60 GACTGTTCG TGTGAGGAA GATAATCAAT ACCGGAATCC TCTGAGCTTT GCTTCGGGCT 60  
 CCATTGGCTT ATTACGAAAT TCGGTGCTG CTCCTAACGA TGTGTACCG TTTATACAAC 120  
 CGCTTGTGA TCCTTTTFA GCAGAAGCC GTTTTGCAC CGACAGAGAT GACAACCTTT 180  
 30 GCTACTTCT CGATCCAGTA TTGTTCAGTG CTGTAGTCAT CTTGGATCG TTGGTAAACA 240  
 CATATACCC ATCCAGTTC GAGAAGATC ATACCAGTT GCTTTCCTC TCATTTACCC 300  
 CATTAATTC GCGCTTTTA TTGTAAAGT GCAGACCCAC AGAAATACTT GATAAAATCT 360  
 35 TAGGCAATG CCATATTGG AGTTTATAT TACTAGCAC ATGGTTCCTC ATCCCGGCT 420  
 TGTCTGTTC GTCTAGGGG GCGCTGTAC TACCTTAGT CTTGTGTAC TCACAGCTTG 480  
 TTACCGGCC GGCCTCTAT GCAACTATTA TATTTGCTTC TAATATATAA GTACTGACAT 540  
 40 TTTCATAGC GCTAGCTAC CGCTGCTTG TCTTGGTGA CTCTCTCAG AACAGCTTCT 600  
 TGAATTATC TTGTACTATC AACCATGGAG AACTGTTC GGCACACCC GACCAAAAGG 660  
 AGAACCGAG GACAATTTG ANCTCCCTT TCCCCGAAT TANGNTNT GAATATATNA 720  
 45 ACCGGGACG GGTCCCTNN TCCCCGGGT ANTTCCCTT TAAATCGTN TAAANTTANN 780  
 AANGTNTAT GGGNGAAG AACCCANCT GACCCNAAAN GTTNGTGGG GTTAACTTN 840  
 CTNNTCGCC GTNCCG 856

(2) INFORMATION FOR SEQ ID NO:309:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 834 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1252RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:309:

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10  GATCTCCTAT TAGTGGGTAG CTAGCTAGTC GGGCGGCTG GCGGGGCGG AACTGGTACC      60
    GGGTCGGAGG CCGAGTGACT AACACTCCGG GTTCTTCTGT CTCTTGGCAT GCGAACATA      120
    ACCATGGGGA CTTATATAAG TTGGGGGGGC GTGCACTGCT ATGAGCCCGT ACGAGCAAGA      180
15  CGTCCAGCAG TTTCAGGCGC GGTAGTGGGG GCGTTGCAGT TGTGTATATA TTGCCACCTT      240
    TCGCAACTTG GACAGCCGTA TCTCGAGGC GGTGAGTAGT AAGCAGGAGC CCGTGACTCA      300
    AAGTAGAAGT CGATTGTAA AGGACAACAG ACCAGTGGCG GTACGGACAG CAGCGGGCCA      360
20  ACGTAGTAAT AAAATATGAC GAGAGATATA CAGAACCACC TACTCTTGA GACGGCCACG      420
    GAGGTAGCGA ACAAGGTCCG GGCATCTTAC TCGGTGCTGA AGTCGAAGGC ACCGGTGACC      480
    TCGCTCAGT ACAAGGACCA CTACCACTGT ATTGGGCCCC TGAATCCAGA CTGGGTGCAG      540
25  ATAGAAGTGG AGGCGCTGGA CTGGGAGGAT GACAGCGTGT TGGACCCGGG AGATTGCTGC      600
    CCGGTAAAC GTCCCTTCCA GCACATGGCG AACCCCGGCT TGAATCCGT ATATGCGGCT      660
    GGTMTGTGAA GGTNCCCCCG GTTATCTTGT TCAACTGTGT CCGGTACCCC CCTCTCCAC      720
30  AATTGAAGCC AACTGTGTA CACTGCGGAT CCCCCCCCC CAAANAACCA NAAACAAAC      780
    CCATCCGTA GGTNCCCCNG NCTGTCCCG AAATTAANGC CGANCCNCCN TCAN      834

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(2) INFORMATION FOR SEQ ID NO:310:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 858 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1252UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:310:

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    GATCTTTATC GCAACNTTIT GGTCTGTIT CGAGTTAAGG GCGTGGGGA CCACACCGAA      60
50  AGGCCCAGCT CCGAGTGTTT TCGGAATAT GTAGTGGCT TTGTTACAT ACGAGGCTGG      120
    TTGACCTGTC AACTGTGGA AGAACTTGT CAACATGTG GCGTGAGAG GAGGACGATC      180
    CTGGGGCTTC GATGGGTCTT CGTGTGCTC CCTACACC TTACGAGTT TTGCGGTGGA      240
55  ACTAGTGAAC ACTGCCATAG CCGCGAGTT AAAGTGATGT GCAATATTA TATTGTAGTT      300

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TTGTTCTTTT CTGATTTGTT TTAGGCTGCC GATAGCCAC GAGGTGAAGT TTTGTACACT 360  
 TCACACATCC CAGCACTGCC ATCAGACAG ATGTTGAAGA TCAAATTTTG CAGCTACATG 420  
 5 CTGCATTGTG GTGCTTGGGT TAGCAGTAGC GGCTAAGTTC CAACTACATT GTCCCCATTC 480  
 ACTCAGAAGT ACCTCGTTA AGCTCACTAT GCGCTTATTC CCGAGCGAAG CCGAGCATTC 540  
 TTACAGCAAT GATGAGAAGA GGCTATTGGT ATGTTAACAT AACGCCAGTA GTGTTATATT 600  
 10 TACCACTAAC CATAGAAAAA GTACAGAATA TCGTAGCCT ACCAACTGAA TGAATATNIT 660  
 GCTTCCCCNC CCGNCCNTA TACCAATGAA TAATAAATTC GATTTGCTAA TATCTNCCCC 720  
 ATATCCNGCC GGGCCCCCGA NNCCCTNCAA CTATTGGTIN CAGNCCNCCN TGCNCCNCCN 780  
 15 TTTTNTTTIN TUNNGGAACC CCCCCCGGT CATCTCGNIN TGNNTAANA TGANTACCTT 840  
 CCTTGNTCC CCGNCCCT 858

## (2) INFORMATION FOR SEQ ID NO:311:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 841 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1253UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:311:

GATCCTAACC AAGCTGATTG ACTCCAACIT TCCACTTGGC ACATTGACA AGCTGTTGCA 60  
 35 GAGCTCGAGG GCGTGGGGG GTGTTGGCTC CATATTGGGA TCAGATGGTG GGTGTACAGA 120  
 CACGGAGGCA TTGGGACATG ACCGAAAACG CAAGAAGTTG GAGCCCCGCT TCCCCGGGCC 180  
 TCCCCGAGC GTGGCACTUG GCGCGGGCA TGGCCGATAT AATTCTGAAT TGGGCTCAA 240  
 40 CTACTTGGCC GAGAGCAACG CGCAGCCAG CGTGATGCTC CCGCAGGTGC AGCAGGCTG 300  
 GAACACAGCT CCTGACAAC AACCCAGACA ACAGCATAGA CAACATGGGC AGGCCGAGGA 360  
 AACGGGTCA CCACCAATGG CTCTTGCTA TCCCCCTCCA ATGTTAATGA ACAGCAATTA 420  
 45 TACATTCCCT GCGGGCCCCC AGCAGCCGCT CCGCCCGCAT CCACAATGCG GTGCTCGAC 480  
 GCAGCAATCT GATGTCCAG CTACCTCCC CGGAATATCG GGTAGCACC ATGTGCCAA 540  
 CTTCCACAG CCCCCACGC TGACTAGTCT TTTGTCTAAA CATCAGCTC ATCACTCGCA 600  
 50 GCCTAATGAG CTGCTACCT CCGATGCATA TGTACAACAG ATTTGCTTAC TCCAATAGCC 660  
 CAGTCTGAA GTCTGCTTGC TTACGTTCG CCGCTCCCC TTGGCCAATN TATCCTTGTN 720  
 NNNAACCN AACCCNGTT CCGCTGTCC NGAAITCTA CTTTACCGT CCGTTATTC 780  
 55 NTAAATCATA ACCCGTTCA ANAACCTTT CCGTGACNAT ATNCATTGN GCNANCCNT 840

C

841

## (2) INFORMATION FOR SEQ ID NO:312:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 842 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1253UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:312:

GATGACGAG TTGATGTTG AGAAGTTCAA GAAGCTGTTT GCGAACTOCA TTGCAAGGA	60
TGTGGATGTG CCGAGGTTG TOGOGGAGTA CCGACTGATA GTGCGGTGIG AGGAGCCGG	120
TGGGGTGGG CCGCGGGGG CCGGTGAAGC GCGCGAGGCG GAAACGGAC CGTTTTCGA	180
GGAAGAGAGC AAAGAGATTA GGATCATTCT GCTCCAAAG CCAATTGGA TTGAGTTGT	240
AAAGAAATG TTGGAGAACT GCTGTGTGCT GTACCGTTTC TATCACCGCC CGACTTTCAT	300
CAGGAAGCTG GACGACCTGT ATGAGACAGA CCGCGTGAG TACACGACG AGCAGCTACG	360
CTTCTTGGG TTGTGCTACG CTGTGATGGC AGTGGGTGG CTTGTCTCTA GCTCATGCT	420
CCCTGGTGG GGAAGCGAG ATGCGGGCTC TGCAGGCAGA ATAACAGCG CTACATTGGC	480
GGATACGGAC ACACGGCAG CTTATCTGCA CGACGAGGC TACCGGTACT ATGTGGCTTC	540
GAAAAAGCTA GTGATCTAC GAACGCGCGT GACACGAGG CGAATCAAAC CTGTGTCCG	600
TTGTGTCTCT CCAAGTTCC GCGCGGTGNC CCGGCGATCC GTTTTCTTC CCGCTATNA	660
ATTCCNCCN CCTNAGANT CCACCCAGCC CCCCCGANA ANTAAAAAAA TTTCCTCCCC	720
CAACCGGAAN TCCNCCCCG NTTTACCCCC CTTANAAAG AGGTTTTTTA AACAAACCG	780
GGGCCCCNC NCCCCGNN CTTACATCC CCCCCCTAAA TCGGAANATT NCCGAAACC	840
GC	842

## (2) INFORMATION FOR SEQ ID NO:313:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 836 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1254RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:313:

GATCGGCCAC ATTGTCCCTG AGGCTATGA AGGGGCCCA ATTCCGCTCG TGCAAGACGG 60  
 TGACGACATT GTCATCGACG CCGAGAACAA TGCCATCAAC CTCCTTGTGC CAAAAGAAGA 120  
 5 AATTGAGTCG CGCGCGCTC GCTGGACCCA GCGGCTCCA CGCTACAAGA GGGGCACGCT 180  
 CGCCACCTAT TCTAAGTTAG TCTCCAAGC CTCCAAGGGT TGTGTCTTGG ACAGCGACGA 240  
 CTAGCACCTC GACGCAAGTC ACTATTATT AACAGATTA TGTATATAAG CACCCCGCCA 300  
 10 TGTCCATTGA ATGGAACGCA TATGTAACAA AAATCGAGGA TGCTTCCCTA TGTCTACAA 360  
 ATCTCAGGAT GTTGAGTACC TTTCAGGTGT CTGACTGAA TAAATGTTGA ACTTTGATAG 420  
 TACTTTTATG TTGAAAAAT TTTAAATTT TATTGTATGG CTGTACCAC GAGTACTCAT 480  
 15 CTTCAACCGA CATTACGGGT ACCTGAAGAG CTTATCTATC GATAACATGG CGACTCAGGA 540  
 GCGGTATTT ATCGGGCGCA ATAGGCAGAC GAAGGTTGG GACTTCTATT TGCGACCAA 600  
 GACTGTCCAT TCGACTGGAA AGTGCATCT CTATGGAATC CGTTGGACGA ACNCATGCG 660  
 20 GNGTTTNGC CATTGAAGGC CNCAACCGA GNTACTCGN AATTATGGG GGNAAAACT 720  
 TTTGCTACN CTCNCGAAG CACAATNCTT CGCAAGNAA NAAAAANGA ATTGNCNAT 780  
 TTGGAGCCN AAACCTNATC NNGCNNGN GNGGGTANC TCNNNTCCN ANGTGN 836  
 25

(2) INFORMATION FOR SEQ ID NO:314:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 850 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1254UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:314:

GATCTCTGGT ACCCCAGCAG CCGTGGCGGG GACGTGGCAT TGGTGACTTC TCCCCAGGT 60  
 AACCGGGTGT GCTCTAGCC CTTCCCCAC ATTGAAGTA AGCTTGTTAG CGGTACTCCG 120  
 CTTCAATTTT TGTGCCCCGT CGACCGGTAG CGTCATAGTC CCGCGGTGTG GCGACCGGG 180  
 45 GCGCGCATC ACAGGTATCT ACAGTTCAAC GCGCGGTGG CGATCCCAAG CGCAGTCTGG 240  
 AATCTCGAAC GGTGCTACAA AGAACGGATG CGTGGCAGAT CGAAGCTATC GAGAAGGTGG 300  
 TGGGGGAATT GAGTGAAAGT ACACGAAGGC AGGTGTCTAG ATCTGTACC TCTGCATAC 360  
 50 AGTAGAGAA GGAGTCGGG ACGGTGTTC GAAATCAGG CAGTGTCCAG TGCGGGGAG 420  
 CGTGCAAAAG GAACTCGAA ACAATCCGAC GGACCTACTG CCAGGTCCAA GCCCTTTCCA 480  
 CGGTGTACA GCTAAGATGG TGACTGGCCA ATAATTTGTC ATGCTGTAT TGTGTGTGG 540  
 55 ACGATTATCT ATTCCGTTCA GCGGTTCATA TTTAGGTGG CTGCAACGT GGTGACATCA 600



CGATTGCACT GSTATATATGA TOGAGTAATT CCATACACT GAAAATONTA ATAATCAATA 660  
 ACCCATGCCN CNACTCGNCA ACTTCNCCNC TTONGCTCCN GGTGAAATCC CCTTCACTAN 720  
 5 TTTTTCAT TGCCCATINN ACCGAACTTT ACNAATNATG CAATGANAAAC CCCCCCTCCC 780  
 AAACCTANAT CTTTTTNTIN NCGGTCCCN ACNGTINCCN TTCNGNCA NCCNCTTIN 840  
 ATTCCAANAC 850

## (2) INFORMATION FOR SEQ ID NO:315:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 827 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1255RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:315:

25 GATGTGTGTC TCAGGGTGCA TTGCAGTGGG CCTGAAGACG GTGGGGACTG ATGGGGGGCC 60  
 GAAGAAGCTG TGCAGCTAC AGGCGATTGC GGCTGTGGGT CAGGGCCGGC TTATTGCGCG 120  
 GTGGGACTCC CTCTTCAGAC CGTCAACGA GAAGATTGCG CAGATTTTGT TGACACGGAA 180  
 30 CGACATAGTT GACTGGTCC AGTATAAGAA CGCCAGAAT AGTTCCACG AACTGCTGCC 240  
 GATGGGGGTG ACCCGATTG TGAACGAGAA CGACACGCTC TCAATCAGCG GAGTGAAGTT 300  
 TGGGGACAAC GACACCTGA GTCCGATCAC AGGGGGCTG ATCGGGCGAG ACTACCTGTT 360  
 35 CCTGATGACG GACGTGGACT GCTATACAC CGACAACCG CGAAGAAC CCGATGCAA 420  
 GCGATCTTG GTGTGCGG ATCTGTACA GGGACTGCC GCGTGAACA CCTCTAGTG 480  
 GTCCGGTCA GTGTGGCA CCGCGGCAT GCGACGAAG ATCTTGCTG CAGACCTGGC 540  
 40 AAGGAAGCC GGTGCATAC GATTATTATG AAGAGTGAGC GCGCGTCGAC ATGGTGCGGA 600  
 TGTGGAGTT CATGGAATG CCAGCAGTG CACTGCAGTT TGTGCTGACG CGAGACTTGC 660  
 AGACGGACGA GCTGAATTG TTGCAGACA CGCGTCCA CTACACGC NCTTCTGCA 720  
 45 ACTTTGCACC TCTGAACNA CNGATTNTG ATCCNCGTC TGTGACNCG NCTATCTAA 780  
 CAGGGGCINA GGGCCCCCA ACAACTGNT CCCAGTTNT CGTTCAG 827

## (2) INFORMATION FOR SEQ ID NO:316:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 836 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: 1256RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:316:

	GATCTAATGG CATTCTCCCT ACCAAATGGG CCCAATTGTA TATTGCCGAT CTTCCTACAG	60
10	GGNACTGGTT TAAGGATCCA GCGAAGATCG GGAGAGTTCA GCTCTTGGTA TTGCCGACAT	120
	TGTGTGGAAA ACACCAAGCTG CAAACTTGAG GGCATATGTC ACTGTCAATCA CAGGTCCACT	180
	TATCGTGTGT GTTGGGGAAA GGTCTAGCAG TGATATTAG GCTGCTATCC TATATGCOCT	240
15	AAATGTTCTC TTTTGGAGG TTCCACAATT CCTGGGGCCA TTCATACTC AACTACAGAG	300
	AACATTGTGT AAATCTCTTT CCGACTCAAC CAATGAGACC TTAAGATTGC GGGCGGGGAA	360
	GGCACTAGGT ACTTTGATAC AATATCAACC AAGAATTGAC CCTCTGGTGG TGGAGCTAGT	420
20	AACAGGCGCT CAGCAGGCCA CTGAAAGGGG AGTAAGGACG GCTATCTTGA AGGCATTGTT	480
	GGAGTTGTCT TCCAAAGCTG GCAGCAAGAT AAGGGAAGCT TCCAAAGCTA ACATCATTAG	540
	ACTTGTGGAG CAAGAGATGG CATCCACAGA CAGCAAGTTT GCAGTGGCTT ACCCCAAGCT	600
25	TCTAGGTGCA CTTTCTGAAA TCATGTCTCC GGAGGAGGCG CAGACCATAC TTCACGAAAA	660
	GTGCTTGATC CAATTTTGAA GAGCAGCT AAATTGGCGT CAGACCCAC TCTATCCTTC	720
	TACCCCTGTA CMTCTCCCG CCATNCACCN AATTTGACTN TTTGTGGTCC ACCGATCNCN	780
30	ATCCTTCNNN CACACGTTTN CCCCTGCTAT TCCCCCNAA NGAAAGTNAN CCCCCC	836

(2) INFORMATION FOR SEQ ID NO:317:

(i) SEQUENCE CHARACTERISTICS:

35	(A) LENGTH: 841 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1256UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:317:

45	GATCAACTGG TGGGGGGGGG TGCACCAAGC CAAGAAGAGC AATCCTTCCG GGTCTGTGTA	60
	CGTGAACGAC ATTGTCTCTG CGATTCTGAA TCTGCTGCC TACCACCCAC GGTTCCTGTA	120
50	CATTGACATT GATCTGCACC ACGGAGACCG TGTCCAAGAA GCATTCTACA CTAATGACCG	180
	CGTGTTCACG GTCTGTCTCC ACAAGTACAA TGGTGAGTTT TTTCCGGGAA CCGGGGATTT	240
	GGATGAGATC GGATGCTGCC GCGGCAAGCA CTTTTCGCTG AATGTGCGGC TCAATGACCG	300
55	CATCGATGAT GATTCTGACA TCAACTTATT TAAGAGCATC ATAGACCCGC TAGTTACATC	360

ATACAAGCCA ACAGTAATTA TTCAGCAATG TGGAGCAGAC TCTTTGGGGC ATGACAGACT 420  
 GGGGTGTTTC AATCTAAATA TCAGAGCCCA CGGCGAGTGC GTCAATTTGT GAAGTCGTC 480  
 5 GGGATACCTA TGCTATGTGT CGGTGGTGGG GGTACACCC CCAGGAATGT GTCGGGGCTA 540  
 TGGAGTACG AGACAGGCAT CCTTAATGAT GTGCTCTTAC CTTGAGATAT CCCAGAAGAT 600  
 ATTCGGTTC GCGAATGGTT CGGTCCAGAC TATCTCTGCA CCGGTCTCTT GGATGANTIN 660  
 10 TCCAAAATAA ACNCCCAAT TACTGGANAA NATACGTCG GNTTTAAAN NTAAATTNIG 720  
 CNGGGGCCAT TTTGNCNTGA NNGAATATC CTCAGATTT CGGTTAACN AAAAAAAT 780  
 GATCGAANA ACCAAANAT NCCTGNTAA CANTNAGAA NMTTGCCGN ACTNNTANT 840  
 15 C 841

## (2) INFORMATION FOR SEQ ID NO:318:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 841 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1257RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:318:

GATCAGTGGT GTCAACAAGG GCTACAAGTA CAAGATGAGA TATGTGTACG CGCATTTTCC 60  
 CATCAAGTC AACGTGTGCG AGAAGGACGG CGAGAAGTTC AITGAGATCA GAAACTACTT 120  
 GGTGACAAG AGAGTTAGAG CTGTGCTGT CAGAGAGGGC GTGAGGTG AGTCTCCAC 180  
 35 CAACCAGAAG GACGAGATTG TTTGTGTCGG TACCTCCATC GAAAACGTTT CTCAGAACGC 240  
 TGCTGACATC CAGCAAACTT GCGGTGCCAG AAACAAGGAT ATCAGAAAGT TCTTGGACGG 300  
 TATCTACGTT TCTGAGAAGG GTGTCATTGC CGAGGAAGCC TAAGTCCCTT ACTGACCGTA 360  
 40 TCTTGATAAA TAATATGAGT ATTATGTAAT CAAAGAATC ACTGCTTTT AITGGTGGTG 420  
 TTTTGTCAA ACGCTCTTAT TAGCCCGGG GTTAGAGTGT GGAATACTG GGTATATG 480  
 CTTTGAAGT TATGTTAAGT AAATTTAATG TCCTATCAGG GCCACAGCT TAGCACTAG 540  
 45 GTGCAGGTAC TCCTTTAGCT TGCCACTGTT CTGGAACAGA AGATATATTT TATCTGTCTC 600  
 GTTGCACCA TCGTAGACAG GTTCACCGCT TCCTTGCAGG AACGATGAA CGCCAGCTTT 660  
 CCGGGTGGG AGTTATAGGA ATTATGGATT OCAATGACAG TTGGTGTGTT AACNACCTG 720  
 50 ATTTGTCCAN TTTCCGCTCT CNGAAGCTNC ANTGNTCCN TGACCNANCA AACCCGGAN 780  
 ACCCTAGGG CTGNNAGCT TGAATGNTT AAAANANTTT CNTTGANAAA NCATTGNTAA 840  
 55 T 841

## (2) INFORMATION FOR SEQ ID NO:319:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1257UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:319:

GATCGGGGCG CTCACACACT CAGGTACCTC AAAGGAATAC GAGTTTGTGG CAAGCTTCCC 60  
 GTGTCCAGAT GCACAGAAAA TCGATATGTA CATCAAGGAG CGCAAAACA AGTACCTCTT 120  
 TTCCGGAACA GAGTACACTT TCGAATCAT CTGCAGCCCT GCAGACGGCC TCACTCAOGA 180  
 TCCATACGAC GCGCAAGCGG CTGGGOCAAA TGTGATAGTC GTCCAGTCCC CATCCGCCAA 240  
 GATCTACCGT CTGAAAAAGG CGGAATCCGA TGTGGAATTT GCGGTATCGG AAGCTAGGCT 300  
 AAAAGTGCAC GAGCCAGCGG TGTGGCTGGC CCTAATTACC TCTGAGGCAG GTGCTGGTTG 360  
 GTCCACTTTC GCGAAGTGGG TGTGTTTGA ACACTTAGAT GCTACACAGT CATCCACCCC 420  
 ACGAATTAA TAGATAGTAC GGTACATAC AAGCCTATA GTTCTTTAA ACACCTGCCC 480  
 TATATTGAAT ATGTCTAGA AGTATATGGG CGAGGCACTT TCAAAATCGG TGAAAAAATA 540  
 TGCACCACTT CGAAATCCAT GTTTTATGAG CTTAACAAC AGTGGTTGTT GAAGAACAAT 600  
 ACGCTGCCAA GGAATATGCA GGTACTCGAA CCAGCTCTCA ACAGATTCTT AAAGATTGCC 660  
 AGTGTGTGTA CGAATOCAC GTTCGCTGAA TGTGGGGACC GACATCAGAC CTTGCATTG 720  
 GTACAAATC AGTCTATAG GNGAGCGCCT GTNTGCCCA AAAAATAANA CCACCGAAGG 780  
 ACNCATTGTC ACTTGAACG AGNCATGTG TNCNGTGAAG CGGNTTTTC GNTTCAAGCC 840  
 CCAAGGACAA NAACCC 856

## (2) INFORMATION FOR SEQ ID NO:320:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1258RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:320:

GATCCAACTT TCTACTAGGG TATTTTTCCTT TACCTCAGCC TGCAATTCCA TGCCATGGCT 60

5 AACCAAGATA ATATTCTCCT CCAGTAGATC CATATTCTCT CCGACTTGG CACTAATCGG 120  
 GATGACTGGC ACGTTTCAC CCAGATCTTC AGCATGTATT TCATGCTGTA GCAAATCATT 180  
 CATTATTITG TTGATCACAG TTTCCTTTTC TTTTGGCGAC OGGAGTTTGT CCACTTGGT 240  
 TATGGGACAA ATCAGCTCAT TCCCTGATTT TTTGACATGC TTAATCGCTT CAATGGTCTG 300  
 GGGTTTAATT GAGTCTTCGG CAGATACTAC CAAGACAACG ATATCGGTAA TATTGGCGCC 360  
 10 CCGTTCCTTC ATCTTCAAAA ATGCTTGGTG CCGGGGGTA TCCAAAAAG TGATCTTCGG 420  
 CTTCGAAACA GGTGTGACAA CCTGGAAAGC ACCAATGTGT TGTGTAATGC CACCAAACTC 480  
 CTGGGAAAG ATGCTGGACT TCCGAGATA GTCCAATATG GTGGTTTTCG CGTGATCAAC 540  
 15 GTGACCCATA ATGTCACAA CAGGTGGGCG GTCTTCAGG GCCTTCGGGT CTGCAGGCTG 600  
 CTCAATTCG TGTAAACGT TCTCCGAGT GACAATGCC TCCCGGAGG CAGTTGGTAG 660  
 CTATCTCTC CCAATATAGC TCGATGTAGT CTCTGGAA TATGTAGTCC GCCTGGCTTT 720  
 20 TCAA 724

## (2) INFORMATION FOR SEQ ID NO:321:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 853 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1258UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:321:

GATCTGTITT ACAACTAAGT TCGCATCCCT ACCAGGGGAA AATATGAAAT ACCAAGTGT 60  
 GTATTCCGAA CGCTAGAATT CTTGTACAAA AACCGGGCA TTACAGGAAG AGGTATATTT 120  
 40 AGGTAAGCG GATCCAGTTC TCTCATAAAA TCTTTGCAGG AGCAATTIGA CAAAGAATAT 180  
 GACGTGGATT TGTGCAATTA CAACGATAAA GTTCTGTCA CACCAGGAAA CGAAAATCAG 240  
 GCGGTCCTT ACGTGGATGT GAATACGTT TCAGGTTTAT TAAACTATA CCTAAGAAAG 300  
 45 CTCTCTCATA TGATCTTTGG GGATGCTGCA TATATGGATT TTAAGAGAAT CGTGGAAAGA 360  
 AACGGAGATG ATAGCAAACT AATAGCACTC GAGTTCAGG CATTTGGTTAA TTCCGGACGA 420  
 ATTGCCAAAG AATATGTGCG CTTAATGTAT GCATTGTTCG AGTTATTTGT GAAGATCACC 480  
 50 GAGAACAGCA AATATAACAA GATGAATCTG CGGAATTTGT GPATCGTATT TTCCGCAACG 540  
 TTGAACATAC CCGTGAATAT ACTACATCG TTTATCACTG ACTTTGGCTG TATATTCCAA 600  
 GATAAGGCGC CGATGGAGAA CGGACACGGT CAACATACAC ATCCCGCAAT TTAGTTCATA 660  
 55 CTAAGTAAAA TACTATTAACT TTAGAATATG TGATAAGTGT TTTAATTACN TAACTTGGTA 720

TTAGTCNAT TGTTAATAA TTGAATATGA ATGCTTATT NTCTCTNANT CAATNIGTCA 780  
 CGATTGGATT TACACNGCG TGTGTAANGA CNTCTAGCTT GGTCATCOCA NTCTCANIT 840  
 5 NCTCCCGCTT NCA 853

## (2) INFORMATION FOR SEQ ID NO:322:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1259RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:322:

GATCACACGA ATATTGCGGG AGTATTTCTC CATGTTTCC CGCAAGCGG CCTGCGCATC 60  
 GCGCGTGAGC GATTGCGCT CGTTGATGAT CACACTCTTG TACCTCGCG CTAGCCCTTC 120  
 25 CGATCGCTC TGGAAATCCA CCGCTCCAT CTGCGCAATC TCCTTCAACA ACTCTGAAT 180  
 CACGATCGG TCATTGTGCC CCATGTGCT CGGCGTGATC TUGATGTGGT ATGGCTGCT 240  
 GACGACGTG AGCTCGAGCT TCTTGTAGA TGGGTAACA AATTGCGCA CATCAATCTT 300  
 30 TAATTGTAT ACACCTGCT CAAAGATACT TCCAAGGAGC CCCATGCACC GGTCTTCTT 360  
 CCCACTTCCA TTGGGCGGT AAAGTAAAT ATGGGCGAG TCCTTGCAG AACCTGCTAA 420  
 AGCCTGAGC TGCTTGTAA GCGATGCGT ATGTGAAAG CTGGTCAAG ACTTGGTCT 480  
 35 ATGCTTGTC ACCCAAAGT ACATATTCCT GTGTATCTG AGATGGCTT TTGTGTGTG 540  
 TAGGGAAGT GAGCAATTCA GTGCAATTA AATTUATTTA GATTGCGTT TTAGCACAAA 600  
 ACGATATGCC CTCAGTAAG CCAGAATACA TACAGTACT TGGCTACTA CTTTGTACAG 660  
 40 AAGTAAAGCT CTCACGAGT CCGTGGAGG GATGCGATGT ATATAACCN CAATTACTCT 720  
 GATGCNAAAA ATGTTGCACC CNTGCTTTT TANTTONGIC GACAACTANN AGAGCCNTA 780  
 TCAAGTCCAA ATTTTNCCT ANCTGGGAAA ACCTTNTCC GTGTTNTAIN AACACA 836

## (2) INFORMATION FOR SEQ ID NO:323:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1259UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:323:

5 GATCACCCCC CAAATCAGCA ATAAC TCGAA AACTGTGCC AGTACCTTTC AACGGGCATG 60  
 AACCTAACGG CGCGCAGGG TCATGGGTAC TCGACTGCC TTGATCCCT CACACTGGC 120  
 CTCTCTGTGT GCGGCACGTG CTTGTGTATG GTAGCGGGC GCGCCGGTGG ATCTAAGGC 180  
 10 ACGTCTCTTT GTACGTGGGT CTCACGTGCA CATGTCTATC CATCCGCTTG CGAATGAGTA 240  
 GATCAGCAGG GAGACCATGC TAGGCAGGBC OGTTGGGGGA GGTGGAAAGG TTGCAGCATT 300  
 GAGGTGGAGC AGCAAGATGA CATCACAGGA TAGTAGTCGG AAGAAAGAGC TATGTGCAGC 360  
 15 GTACAGCGTA GTGGATGAGC GGGTTTCGG CAGCATGGAA GAATCGGAC GTAGAGGTG 420  
 GGAGGTCTTA TTGCTTGGC TTTCTAAACT GAAACCTGG TCGATGTGG CGTACTGTA 480  
 CGAAGAAATG GGGTGGGC ACTTTGGAGA GAACTACGTG CAGGAGCTGG TGGGAAGGC 540  
 20 AGCAGAGCTG CCGGGCGATA TCCAGTGGCA CTTTATCGGG GCGCTGCAGA GTAACAAGTG 600  
 CAAGGACCTG GCGAAGGTAG TGAAC TGCAT GCGGTGAGGA CCGTCGACTC GCTAAGAAGG 660  
 CCGGAAGCT GAGGAGGGCG TGGGAAGTTC CAGCGAGGC CCGCATCTG TGTACATTC 720  
 25 AGTGAACNCT CTGGCAACNC AAAGNNGTIN CNGATGAGC NACNGTGCAC TGTGATTCTT 780  
 CTNCCAAAAC AAACCTTCCC TGCCCGAGCA TAAATGGTCC TGGACCTCC CCGCGAAGGG 840  
 AACCGATCCC C 851

## (2) INFORMATION FOR SEQ ID NO:324:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1260RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:324:

45 GATCCTCAGA GGGCCCCCAA GAAGCTTGG CCGAGACAGT AACGATGTTT GCGAGGTTG 60  
 TGCTGTATCA CAGTTGAGCT CTAGGTTGCA CTTTCGGAAA GAGCGCTACC GTAGCTGCAT 120  
 GAAAAAAAG TAAGGCTCAT CAGTTTATGC AGAGGCAAGA ATAAGTTTGG TAGAGCCTTA 180  
 50 CTTACACAAGC GTGGCTCTAG CGAGCCATAT TATTCTATGG CGGCAAGAG AAGACCGAAG 240  
 AAGGCCAGAG CTCCATATCG AAAGTACGTG GCGGTCAAG GGTTTGTTCA TACCTACGGG 300  
 GTTTCAGTA CTGAGAGTTC AGCACAGAT GAAAGCGTTT TGTTCGCGC AGACAGTGGG 360  
 55 GTGCAGGTAT CTGACGATGA TATTGCGAGA CGACTGTGTG ATATGACACT TTCCGCAAGC 420

GCAGCGTTTG CCGGTGGAGC GGCACCCATA CCGTATCCCG GACACTCAAT GGTGCTTCCC 480  
 TGGGAGCTGC AGTTTTTGGT TCTGTCCAAA TGCAAAACTA TTGAAACACA CTTCATGCAA 540  
 5 GTGTGCAGGC GGTGGTATAT CATGTGTCTG CCATTGATCT ACGGAGCACC AAGGCTCTOC 600  
 AGCAAGACTT CTACAAGTTT GTGGAGACAC TGGTGGCAGC CCGTAAACAG AATTACCGC 660  
 AATATTCTCTC GATCTCGACC GTCCATGAAT ACCNNANCGC AAACCTTTTC CAAGGTCTCTC 720  
 10 CCGTGTCTCC CACCCCTGAC ATTCCGGCCC CAAACACTCG TATCCCCNTG AATCTTACCG 780  
 CNINCCNNIT GCAACCGATT TGTCTNTTCC CAACGTTANC GAACNNNTTG AG 832

(2) INFORMATION FOR SEQ ID NO:325:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 846 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1060UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:325:

GATGACCGG CCGCCACGC CCGTGCCGTG GGTGAAGTCG CCGCCCTGGA TCATGAAGTT 60  
 GGGGATGAG CCGTGGAAAG TGAGTTGAT GTAGCCCGCG GAGGGCTOCT GGCCTTTTGC 120  
 30 GAGCGTGAGC AAGTTGGCGA CCGTGGCGCG AGCGACGTG CCGAACAGCC CGAGCAAGAC 180  
 ACGGCCAGT GGTGTGTGCG CGTGCTGAG ATCGAAGAAG ACACGGTGTG TGACGGTGGG 240  
 GTCTGGAGC GCGAACGCGC AGAGCAGGCG CTGTGGGAGA AGAAGAGGA CCTGCATTGG 300  
 35 GGGTGGCTGC GGGAGGCGCG GGACGCGCG GGAAGACGCC CGCTTTTATA CGCGAAAAG 360  
 CTGCTTGGC TACGTAGCTA GAGATACAGA GCGGTGACT TGAGGCTCTG CAGCATCAGG 420  
 CCGTCCATCA TCTCGGGCGT CAGCACGTC GAGTAGCCCG CCGTGGGCGC GTCCAGGCGC 480  
 40 GCGGTACGC CTGGCGCAGT GCGCTAGAC GCGGTGCTGC CACTGGGCGC CTGCAAGGAG 540  
 TTCTGCTCCA CCGGCACGAA GCGCGCGCGC TGCCAGGCT GGAAGGCGC CAGACGCTGA 600  
 TCGCGCCAG CCGCGCGGAC AGGTGAAGC CCGTGGACAG CAGGCGGTC TGCAACAGC 660  
 45 TGTAAGCGGT GCGCGCTGTA CCTTCCCNNA ANAGNTAT CTTGACCAT CACGTTCCG 720  
 CCGCGCTGC TTCCGAACCA AATCGTCTC NCTTACAC CNITTCANGC CNTCACTTGC 780  
 ACNTGNCNA CACNCTTNC GGTACGTC CAATCGGTC TCCCGGCGC GCTTAGCNG 840  
 50 GCTCGT 846

(2) INFORMATION FOR SEQ ID NO:326:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 835 base pairs



(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1261RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:326:

GATCATAAAC GAAGAATTCC TAATTAACAA TTTGTCTCTC ATGTACTTCC TCAGTGAGAA	60
ATAGCGATAT AATCATTAGA AAGCTTCCCC GAGCACTTTA GCAGCACCGC ATGCCAGCAT	120
AACCCCTGG ACTCAGGGCA GTATGCCGC TGGCACTCG GCACCTCATC GCAGGCGAGA	180
CAGTCCACCA CTGGAGGAC CGTAGTATTT ATACTTTTCC AGGTGAAAA ATTTCGACC	240
GCCCCACGCC GCAGAGGGCT GGACGGGCAT TAGGGCTCAC AGGGTTCGAC TGCCACTGCT	300
GCCCCAACAG CGCGCGGCAT GTAACGTGAA ATGATATATT ATACCTTCTG ACTACAATGT	360
GAATATACA AAGGTGGCTC ATAGCGGCAT TGCATTTATT CAGAGCGAGT AGCTCTGGTG	420
TAGATAGCCT GCTTGGAGTG CTTCGAGATT GGCTTGATGA TGCCCTCGGT CTCCAAGTGT	480
CTCAAAGCAA CTCTGGCCAT GGAACGGCG ATCTTCAATC TGTGACCAA CAGGACACA	540
GAGAGTATC TGTAGGTTCG GACCTCCTTT AGGATTCTGT CAAGCTTGTC CTGGTCCAAG	600
ATGAGGGGT GCTGGGCTT GTCTTGTGG GACTTCTTGG ACCACTTCTC TTGACTTCT	660
TACCACCGGC CATGGCGGC GGGCTTCTG GGCCTTAAAN AINTGTGTTT TGTGCATAT	720
ACNGTGTGCC CNTATACTGT CCGCACTACT GGCNTCTCTG CGNAGGGTGG TGAGCTTCCG	780
TACTCNCNC OCTACCCNC CCGCNCNT TGTCNTTTC NNCNNNOCTA ANCT	835

(2) INFORMATION FOR SEQ ID NO:327:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 852 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1261UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:327:

GATCTGCAAC AACACCATTC CATCGGAG TCTTTCCAAT TTCTGTCTG GAATATTATG	60
AGGAAGTTTG AGAAGCATAT TGGGAGCGAT GATGAGGAG ATCCCTTCCA GATCAACGAT	120
TTGGAGGAGG AGAAGACCTT GCGCATGCTT TCTAACCAAG CCTGTTCCTT CCGGTACCTG	180
ATGGCCGAGG GTCAGGTAAA GTTAGATGTT TTAAACATG TATCCATTAT GGGGTGAAC	240

TTCTGACGGGA GACTTTTCTT AGAGAATCTT CTATTTCAGT TTCTGTTGGC CTCAGCCAAA	300
AAAGCAGAAA CTAAAAAGAA GGTGGGGAAT ATCAAGGAAT GGTCTTACAG AGATGACTTG	360
TTGCAGGGCG CCTGTGCGCA TGGGATCCAG GCGGAAAATA AAAAGATAAT CTGCAAATCG	420
CTCAGGATGT TTATGAGGAA TTTTAGATAC ACGAACTATA TTCTGGTCA GCCTGGCTCG	480
AAGGAGTATC AACGTGACAT GAGAAGGTTG GACTGGGCGG TTAAGCGTTT TTTGGAACTT	540
ATAGATGAAG AACTGGATAG TGCAGATTGT GAAGAGCTTC TTGTCACTAG TCTGAATGCA	600
TATTACGTGT AACATTGAAC ATACGTACTC TATATTAAAG TGGTGAAAGT GATGAGAGTA	660
TGACGTGCTT GCTTTTATTG CATACCACTT NTGAATTACA GTTATTCGGT GAATGACNAC	720
AAACANGTTC CATTACTTAC TTGTTGACNT CGGCGCGACC ACCACCGCGG CCACACCTTT	780
GTTTACCTTA TAAAAATCTC CACNCCGNC GTATANAGCC TNAANAATTC NITCGCTCAT	840
GCGGTTTIGA CN	852

(2) INFORMATION FOR SEQ ID NO:328:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 831 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1262RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:328:

GATCTTTGCA	CAOGCTGGTA	ATGTTTDOCA	CTAACTGGTA	TTTTTCTTG	TCTAGATAGT	60
CTGCCGTAAA	GACTCCCGAC	GTGATCGGOC	GGGCACGGAC	GCCCATCTGC	TCCAAGGCCG	120
TCACAAGTTF	CAGTTCTGT	TCCAGAAAGC	ACTGCGAAC	TACTGTCTATG	GTCCACAGGAT	180
CAGTTACCGG	AATTCTCTCT	ATATATGAAG	GCTCGATACC	CTGAGCCTCC	AATTTGTATT	240
TCACCTGGGG	ACCCGTGCCA	TGCAGCACAA	TGGGATAGAG	CCCCACATGG	TACAGGAACG	300
CCAGGCATGA	AGCCAGTTCC	GGCAAGTTGT	CGCTGATGAT	GCCACCTCCA	ACTTTTGATAA	360
CCCGGAATTG	CTGCTCGAG	ACGGAAGTAA	AGTACTTCAG	GTACTGTTCT	ACTTTCAGCT	420
TAGAGCCAAT	ACTGTTGAGA	AGCTGGATCA	CGGTGGACCG	TGTTCTGCAG	GACCCAAACG	480
CCCTGTTGTT	CCCGGTTCTT	GCATAGTTCA	GCTTCTTTAT	AGCGGCAGTG	CTGAACAATT	540
CGCGCTTGTA	TGCGGCACCG	ACAGCCCATG	GCGTCCGGTT	TTAGATCCTG	CTACCAGCGA	600
AGCTCTACTA	AACAGTAGAG	AGTCTCTGCA	AGCATCTTGG	TACTCCGTTT	ATCCCACTCG	660
CGCGAGTTCT	AGCTCTCGAA	AGCAGTCCGT	GTGGCTTATA	GCTTAANTTC	TCTTCGGTTC	720
CATAACCAACA	AACCGTCTCN	TTGNCNTTCC	TGANTTTCAA	GACCCCNANA	TTTTTCACAA	780

TTTGTGCAITTT TTCCNGNGNA AGGGTCGNAT TTATTTTTC ATNONTTAA A

831

(2) INFORMATION FOR SEQ ID NO:329:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 865 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1262UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:329:

GATCACAAGC TTGTTGAAGC CAACTGCTGA AAATGTCTCC TACGAGAAGA AACGATTCTT	60
TCCACTAGGA GACGTGTGGC AAATTTTAA AGGAGCCAGT AAGAGCCAGA CTAGCCCCAG	120
CAGAAGCCCC AGTAGTTGTT AGGAAGCATT CCAGAGCGTA TACGACACTT TGAAGACCGA	180
CAGCGTTTCAG AGAAGACAGA GACAATCAAC ACCAAACAAA CATGGAGAAT CCTCACGTAC	240
ATGATAATTT ACAACACATC CAGGCGGTGT TATCGAACTA CGACACATCG TTCTCTCTGG	300
ACGATGAAGA GGACTACTGT CCGCTCTGCA TGGAGCCTTT GGACATCACC GATAAGAACT	360
TTAAGCCGTG TCCGTGCGGG TATCAAATCT GTCAGTTCTG CTACAACAAC ATCAGACAGA	420
ACCCGGAGCT AAATGGCGGG TGCTCTGGT GTGCGCGAAA TATGATGATG AGTGGGTGGA	480
GTACATTGTT TTGAGCCCCG AGGAGCTGAA ACTTGAGCGA GCGAAGCAGG CGCGGAAGGA	540
GCGGAGCGGC AAGCAGCGCG AGAAGGAGCG AAAGGAAAAC GAATATGCCA CCGCAACATC	600
TGCGCGGCAT GCGCGTATC CAGAAGATTG GTATACTTA TTGCGCTGAA CCACCGGTAC	660
CGTACGAGGA GGTGTGTCGG CTGTTCCGCT CGGACAGTTA CTTTGGCGT TNCGGANAT	720
TTACNNATCN TCCGTGAACC GCAAAAGGCC CCATGACCCC NACCGTNTGG ATNINTTTCC	780
TTCCCGGAAA AAGAGCGGCC CNNTTNGGC GTGGATGINT TTTNIGANG CGNGGTGAGG	840
GGGTACGACC NATNIGCCIN TTTTG	865

(2) INFORMATION FOR SEQ ID NO:330:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 832 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1263RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:330:

GATCGGGCCA TTGGCTTCG AATGGTTCCT CACAGAAGGA TTGCTCTACC AATGGCATT 60  
 5 GTTCAGGAG GTCTCCGTA CTAACAGAAT CGTCTGTGG AACTCTCTTT AGGAAGGTGA 120  
 ACAGTTCATC TATCCTTTCA AAATIGATAC TCTGAAAGGG TTCAATTGGG GCGTTAAACA 180  
 TACTAGATGC AGTCATTAGG GCGGCACCTT CTGGGTTAAT ATCGTCAGCT ATCCTTTTTA 240  
 10 GTGCTTCCTC CTCATTTTCA TTGGGCTTGA ATAAACCTCT AGCTATCAAA AACTCAATTA 300  
 GTATCTTCTT GACCTTAGTA GTTGSTCGT CTGTGGGCTT AGTCATACTC ATTAAGTGAT 360  
 GACCGAGCTT TTGCACACCT TTGCAGAAA ACACACAAAA TATTTGAGCT TGGTTAACGG 420  
 15 TAAATTCATC AGGAGGAGGT CTGCAAAAT GTGTGATATC TGGCCTGAGA AAAGAAGTAC 480  
 CGCAGTCAAT GACAAATGAG AGAGCTTTGG ACAAGCCATT ACCAACTCAT ATATTGGATA 540  
 AATAGTCAAA TTAGTACAAT ATGATAGGTG AACTCTTTCC AATGTGTCAT TCCTACCAAG 600  
 20 CAAAGCAATC ATATTTAATA ACCTCATCTG TCATCTGAGA ACATTCAACA ACCCTATCTT 660  
 TTTAGTTTGT TAATTCGCCA ATCATATAAG TATGAATTGT CCATTTTGTG CACAACNATC 720  
 CNCTTCTGAT CNNGGANATC CTGATTCAC CTTATCCCN OCNGAATGA ACNTGGCCAA 780  
 25 NGANATTNIN GTTTTTCCCN CTTGAAANCT CNAAATNCAT ACCCGCTTA CC 832

## (2) INFORMATION FOR SEQ ID NO:331:

(i) SEQUENCE CHARACTERISTICS:  
 30 (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)  
 35

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1263UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:331:

GATCTTAAAA GCTGGCCTCC GCAGATAGAC CTCTGCGCA GAGGCTGGAA ACCTCAACTA 60  
 GCAAGTGGCC ACCCGAATCA GATAAGCACT AGAGTGTTC CAGTAACAGA GGAAGCGATC 120  
 45 AAGGAAGATA GTAGAAGAGG AACTGCTGC CAGGCTTGAT CGGACAGAGG GTTAGCTTTT 180  
 CTGTGTAATT TTAGAGTTTC GGGGCTTGT TTACTTCGTT TCATTCTTTC GTGTAAAGAA 240  
 GCTGTTTGCA GGCTGOCATC ATTTGGCAGT CGCCAGGTAG GGTATTGCAG GGCGACGAG 300  
 50 TCGGTGAAC AGAGCAGGAC CGAGAAGCC GATAGACAGG CGTTTGTTTG TAAGCGGTGA 360  
 GAGCTGAAGC AGGTCAAGAG GCGGCTTGG GCAGTTGTG CGGCGCGGC AGAGCACAGC 420  
 AGGGCATCCG AAGAAGCGG AGCGTGGCA CAGGAGGCA GCGCGCGAA CAGGGGGTG 480  
 55 TGATGACGAG CGAGACGAAC AACAACAAG CGCGAGCTC GAACGCGGG CAGCTACGC 540

CATCGGGGCT TCCGGGAGC TGGTTTACGA CGGCATTCTT GGGGGCTCGA CCACAGACAG 600  
 ACAGCAGTAC TCCAGAGT TTCCGGAGCG TGGTTTGGGG TGAGGCCAGC GGGCCAGAAC 660  
 5 TATTTTCCA CTACCAACC GGCAGNATG CCCCCACTT TTTTGNCCAA ANACATTTT 720  
 TCNCCAGCN CCCNCCCTNC TAAACCATT TCTTACNGGG NCGAATGAAA TGGGTGNTT 780  
 TTCCCGCCCC NGAGAACACA TTTTTCNCA CTGTGACCCG ANTNNTTANT CTCCCNAAAC 840  
 10 TTATTTTTC C 851

## (2) INFORMATION FOR SEQ ID NO:332:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 801 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1364RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:332:

GATCTCGTTC TTGTAATGCT CTAGCTCATA TTGTGTGAAG GAGAAGGGTG AAAACAGCTC 60  
 CGAGGCTGCA ACTACTGCAA AGAATAAAGA GCAAAATATG GCACATAAGA TGTCCTCCCA 120  
 30 ATTCAATGGG TACAGCTCTA ATACTGTGAA CCTTAATCT CCGGTAGGCG CAACAGTTAT 180  
 GCGGCCAACC ACGTTAAGT GATAATGATG TAGGTACCCC GGTGAAAAA AGAGTATGTG 240  
 GAACCGCCCA GCTGAACCA GCGATGAGA CATGCCAACC ATATCCAAGC ATACTTGACC 300  
 35 ATGATGAGGC AAACTATCT AGCATAGTTA GTCTTGACG TGAGACAGGC TTCAATCGTA 360  
 AACCTCCAC CTTCATATT GTCAAGTGAG AGGCAACATA ATTGATCTTG TGAATACAC 420  
 CCATACATTT TGCTACCACC CATACATACT AATTAATGGG GAAATAGCG GCTGGTACAG 480  
 40 ATTCTTGCA CTCCCTGCC CAGAGGGCG CCGGCTCTC GTTCCCCAGC GCGGCGAGG 540  
 GCGGCGAGG CCACTGTCT ACTACCTCT CCTGTGTC CCGTGGTTAC CGGCTTCAA 600  
 ATTACCAANC CTCGAATTTT TGAATTTCC CGACAGTNT GTNCTNTTT TTTACCCCAA 660  
 45 TTCCGAATT TCCCTATTAA ANGTAAAC CONNITTAC TTTTGTGGAN TAACCTNNGG 720  
 CGTCTTNG GGNVNCCT TTTTACNG CCGVITCA GCGCTTTTG TTCCCTAAAA 780  
 CCGGTAATAA AAAAAAGAT T 801

## (2) INFORMATION FOR SEQ ID NO:333:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAGL264UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:333:

10	GATCTCATGT ATCACAACCA GACTATGATG CGACTTGGGG TGACTATGTC TCCTTTGCCC	60
	AGCGGTTCAG AGAAGCAGTG AAAGACAAGG ACCTTATTTT GATOGACTCT GGTGACAAAC	120
	GTACCGGTAA TGGTCTCAGT GATCTCACTA GTCCGATGGG TTTGAAGTCA AGCGGTATCT	180
15	TTAACTTCA GAACTTGAC TTGTTAATC TOGGTAATCA TGAAGTGTAT ACGGAAGATG	240
	TGGTTCGCTT GGAATCTAT GGAACACCA TGGAGCTGA GCTAAGTAT AAATATGTCA	300
	CAAGCAATGT GGAATTATC ACAGAAGATG GGGAGTGT ATCGTTGG CAATAAATAT	360
20	AGGTACTTTG AAAAGCCAAA CCAGAATCTA CGTGTATTGG CGTTGCAAT CATGTTGAT	420
	TTTCCCGTGG GCTGCTAAAA ATGTTAGTGT AACCCCTCTG GCGAAGAGG TTAAAAAGGA	480
	CTGTTTACC CAACTGTGG AAAAGTACC GGTGACAAGC TTGATATTAT AGTTGTCTTC	540
25	CGTCATTAC CAGTCACCG TGGGAAAG AGAGCTCTG CAGTTACAC AACGACTAAG	600
	GGAATCTTAC CCGACACTA TTATCCCGTA CTCCGAGTG NNTACTCAGT CNGAAANTCC	660
	CINGTTTNG ANAAAAAGAN TGCITTACCA AGGGGAAAT TOCTGAAACA TGGAAATCNA	720
30	TCAANANNG TTTTNCAGA AACCAATTT TOCATTONAT ATGACTTACC CAATTOCTTT	780
	TCCCTCTCNG MTNANACTC CAAATTCNT CCAAGGAAGA ANANTNACNC CC	832

(2) INFORMATION FOR SEQ ID NO:334:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 800 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1265RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:334:

35	GATCTTCTC AGAAATAACT TGCAATGTCT CCACTATTTT CTCAGATTA GCATTTATGC	60
	ATGTCACTAG GCATTTGGTT TCAGGTAATG CATTCCCAAC AAGTGGCTTA CGATCTGGAA	120
50	CAGATTGTGT TCTTTGTGAT TCTGGTGGAG CCGTACCTCC AAAAGTTGAA TCTTCGTTTT	180
	CCGCCGAGCA GGAATTGCAT GGACGAGACT TCTTGTGAGA CATAACTCA AGTGGCGCCG	240
	CTCTATCTGA CATATCTTCC TGACTCTCTT CTGCATAAGT GCGGTACCT GGCTCTAGTT	300
55	CGTCTCAGT CCTACGTCT CTTCTTGCAT GCATATCCCT TGTCGTGAGA TATGTTTCTC	360

TCITCGGGCT AGAAGGGTCC TCATTTGTAG GATCTTGAAC AAAAGTAGT TTGTTATTCT 420  
 CCAGCTGGGC AGTCTCTTCC AGGTITTTACT TCGATGCTT ATTAADACTG GTTCTTTAGA 480  
 TGGTTCCTCG ACTTTGGCTA TAGGCCATTC GTTCCGGCGA CTTGTGAAG TATGCATTGA 540  
 GAGTCTCTCT GGTTAAAGCT GINGTCCCC CGTTATTTTA NCACGGCTTG GCCGGAATGG 600  
 TACACNGTTC AGTTAATCNC NGCGGGTTCG NGTTCATCC TGTGGGGGCG CCACCCAGAA 660  
 CCNAACTTN GGCGCCACNA TTTCCCNCTN CCAAACNNTT TGGCCNAAA AANAATINTT 720  
 CCCCACAGGN NGGANNACGC ATACCCCGAN ATCNGTATN TTGTGGGGGN AACCCCNNA 780  
 ANCCCCNCCC CCNNGNGAA 800

## (2) INFORMATION FOR SEQ ID NO:335:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (v.) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1265UP

## (vi) SEQUENCE DESCRIPTION: SEQ ID NO:335:

GATCCGGTGG CCGCTGGTGA AGGCAGCGAC GTGGTTGTAC CGGCAAGGCG GCGTGGCGGC 60  
 GTTCTACCTG GCGAAGCGGC TCAAGTTCAT CAAGGTGTTT CCGGAGTCCG CGATGAAGTT 120  
 CGGCTGGTTC GAGCTGGCGA AGCGGTGCT GCGGGGCTTG GAGGGCTGCG CCGAGACGGG 180  
 CGAGCTCTCG CGCTGTGGA CGTAGCTTGC GGGGGGCTT GCGGCATCA TGGGCGAGTT 240  
 CTGGGTCTAC CCAATGACA CCTTGAAGTT TGCATACAG TGTGGGCCC TCGATAAGCG 300  
 CTGCGGGGGT CTGCGGCTGC TAATCAAGAC GGCGAAGGAC ATGTACCGCG AGGGGGGTCT 360  
 GCGACTCTTC TACCGGGGCC TTGGCGTTGG CATTTTGGGC GTGTTCCCG TACCGGGGCG 420  
 TCGACTCTCG CACCTCTCG GCGCTCAAC GCTGGTACAT TACCGGTGCG GCAAATGCGC 480  
 TGGGCACTTC CCGAGAACGA AGTGGTCATG AGCATCTCG TGTGCTGCG AATGGGCGCT 540  
 TCAGCCGTAC GTCCGGGCCA CGTGTCTACC CTATCAACT TCTACNGAG CGNTCCAGC 600  
 CCCAGNAGT TMTNCNCCC CCGCTCTACA ANGNITCAAN TMTTCCGAA AACACCNCNN 660  
 AGGCCCCCCC GCTTTTACAA GGTTCGGTCC NACATTGCCA GGTNNCCGNC ATCCACNCT 720  
 NTPTTTTTC NAAANTTAA NNCCANCCCC CCNAATAAAG GCGGCTTTC CCCCCNACC 780  
 CNGGAATAAN GGTTCGGNCT NNAAAACCAA NACNCCCCC 820

## (2) INFORMATION FOR SEQ ID NO:336:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 819 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: 1266RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:336:

GATCTTATCT	GGAACACCCA	TTCAGAACGA	TTTATCTGAA	TATTTGGCCT	TACTAAATTT	60
TAGTAACCCCT	GGGCTTCTCG	GTACGGGGGC	ACAATTTAGG	AAAAATTTGG	AAATACCCAT	120
TCTACGGGGT	CGGATGCTG	ATGCTACTGA	CAAGGAGATC	GCTGCTGGTG	AGGTGAAGTT	180
ACATGAGTTA	TCCAGATTG	TGTCGAAATT	CATTATCCGG	AGAACCAATG	ATATCCTATC	240
GAAGTACTTA	CCTTGTAAGT	ACGAACATAT	TCTATTOGTC	AATCTCTCTC	CGATGCAAAA	300
GGCAATTTAC	GAACACTTGG	TGAGGTCACG	AGAGGTTGCC	AAGTTAATGA	AAGGTACAGG	360
GTGGCAGCCA	CTGAAGGCGA	TAGGTTTGGT	GAAAAAGTTA	TGTTACCACC	CTGACTGCTT	420
AGATCTCCCG	GATGAGATCG	CGGTTCTTAC	AAATTTAATT	CCAGATGACT	ACCAGAAGTG	480
CTAGTGACAC	ACACTCGGCC	GCCGAAGAAN	TTCCCTTTT	GNATTCACAC	GANACATTCC	540
ATCNAATTTC	GONATTCCTA	GAACGTTTTC	NGTTTTAGAA	TCCAGCCNTG	AITCNAATGA	600
AAAAAATGTC	CCNGATTTC	ACNNCCCCCC	ACCTTGGATT	TTNCCAAAA	AATNINNNCCN	660
CCNCCCCCN	GGTTTNTTCC	CANCTGAANG	NNCCNGNAA	ATTAANNANC	TTTNAACCTT	720
TTGAAATTC	CAAAACCCCC	GGGAGAAATT	NTGNTTNTT	TCCCCNGGN	CNGGGNNGGG	780
NTCCCCCTTT	NGCCCCCCCG	NGAANTTTGA	CCCCAAAGN			819

(2) INFORMATION FOR SEQ ID NO:337:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 807 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1266UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:337:

GATCTGTCTAG	CAITTCACAGA	AACCATGGCT	ACGAAAAGTT	TCCTACAAGT	AATCCAGCC	60
AGCCGAAGGA	CTCCCCGTTG	GGTCTGTAG	CCGTCTTGGC	AGCCACAGT	TTCCAGGACT	120
TGCTTCTGT	TGGTCAGAGT	ACTAGGCAGG	ATGGGTTTGC	TTATTCCAAT	CACAGTGTG	180



TGGCTAATGA TGGCCAGCCC TCTTTACCGC GAAACCTGCG CCCAGACTGC ACGTTUACTG 240  
 CGGAGTTTAA CCAGCTGCTA TCTGAATCCA GCAACTGCGT TGAGCTTGAT TCTATATTCT 300  
 5 CAGGCAACTC AGTTCTCTGG AATGGCGAGA CTTTAACTC TGAAGCAAGA GCTACCCCTG 360  
 AGGGCGATGT OCCATCTGTC TCGAAGATG CCGCGACGA CAGCCAGGCA AATTTCTGCAC 420  
 AGAATGGCGT GAAGTATTGA GTCTAGCGGA CACTGAGTAT GCGGACCTGG ATAGTTTGAT 480  
 10 CACTAATTGG TACTTCTACC ATGCGAGGGT TGTGCGCGG GGTCTGAAGG TTTTGTATA 540  
 ATGATCGATT TTAGAAAATA TAAGAACCCC CTGGAATATG AATACNGNEN NTTAACCCCC 600  
 GGGGTTGCT GATACCCCC CTNCCCCCN CTNGGNTGAA TTNTTACCC NOGNGGGN 660  
 15 GANAAANAAT TCCTGCCNNC TTGGGTTCN AANCCCCATT CCTTTTNA TNAAAANTGC 720  
 TTCCNNGNEN INTTAAAAA AAAAACGGTG TTGCCCCNAT AACCAATCC CCGGCANGN 780  
 AATTTCTGG GTTCAACANC CGCTCAC 807

(2) INFORMATION FOR SEQ ID NO:338:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 792 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1267RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:338:

35 GATCATTTCC ACCGATTGCG AGCAGCTAGT GCATTTGGCC ATACGCCCCG TTGCCCCTTT 60  
 TTATAATGAA TCCCGCTTG TAGAGCATCA TCCGGCACTT CAGTGGTAT TGAATAGCTC 120  
 CTCATAACCG CACCGGAAGA TTTCAGGAAT ATATCTGGTT GTGTAGTGTA GAGGTTATCA 180  
 40 CTGTGGATTC TGATATGGCT GTTCAGCTT GAACATCCA CTAACTCGG TTGGAATCGG 240  
 AGCAGGAACA ATTTTGTGNC TNAANCCNA NATTTTNNCC CCTANAATAN TGGNCTNNCC 300  
 AAAATCNTCN NNTTTAATT TTTTCAAAA CTTTGTCCGT GACCGGANIN GAAATGNGGG 360  
 45 NAAGTGGAT GTCCAAGNG GGNNGGNA AITAGAATC CAGGGAAAT TCCTACANTA 420  
 NANAGTGNC ACCNCGGNA ACCCGGGN GGNNACTG GNCCTTTNA ACCTNGAAT 480  
 GCGGTNTCC AACCTTTTNC CGGNGGCTT GGCCCCCN TTAATNCNAT TACCCNCCC 540  
 50 TNCCTTTCC NAAANGATN CCCCCCNG GAAAGGTN TTNNNNAN TAGGAGGCC 600  
 CTNGGTCCG GAATNGNN CCTTTCTTNC TCCCCCCC AATCCNGAC CCTGNAANNC 660  
 CCTTNNCCC CCNNTTTTAC NNTTTCCN GNAANTCTT CCTTGGCC ATCCCCGAC 720  
 55 NNNATTTGG GNTTAAAGG CCCCCCGNC CCCCNTGN AAAAGNTN GGNCCCCC 780

CCCCCCCCTTN GN

792

## (2) INFORMATION FOR SEQ ID NO:339:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 824 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1267UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:339:

GATCCGCATC GTTGTGTGA GTCATACIAC CTGGACGCCA TGTTGGCGGA GCTGGCGCGG 60  
 CCGGCGAGTC TCGGCTCACT GGTGGCTTG TGCAACCGCG ACTGTGCCCC CTCTACTGG 120  
 TTGGAGCTAC CCAAGGACCG TATCTGTTC CTATGTGGA TTGGGAACCT CGTAATCAG 180  
 CACCTGTGA ATGTAGACCC AGCAGCAAGG GACATGCAG CCTTCTGGA GAAGGTGAAT 240  
 GCGCTCTTCT TGGAGAACCG CTCAGGCGG ATGCTGCAGA AGGAGGCTTT GTTCCCGCAA 300  
 CCGAAGAGCT GCGAGAACA TGGCGGCGAG GCGAACGTC CTGCGTCCC GATTTCCCGT 360  
 TCGCAGACAC AATACACATC GGACGAGGG ACCAATTACA TGAACCCCA CGCATTGCG 420  
 ACGGCGGCC ATGGGCGCG CACAGGCGC TGTCTGTG CGCTAACAG CGACACCTC 480  
 TCTGTGCGAC TGGCTTACA CAAGCGCTG GCGGAGAG CGTGGCGAG ATTCCATAC 540  
 AGACTTGTG ACGCAGGTC GAGGACCCA TCAGACAGG AGCTTGCTC TTTGACAGA 600  
 AGGCTTTGAG CAGGATTCCC AGGACGAC GACCGGCTG TAATGCACT GTTGTCTTC 660  
 CNAITTTGGC CCTATCCCC AATGGAACG CACTCCCCG AAAAAAAAAA AATTTTCGN 720  
 TGGATATTG ATGAATTGAA TTAGAAAAAT TACNTTCTN NNAITCTTC GGTGCCACAA 780  
 CAATTGCGAN TCTAGACCC GCGNCTGGC NTNGGTTTT AAAT 824

## (2) INFORMATION FOR SEQ ID NO:340:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 787 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1268RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:340:

GATCTTGAGA ACACTTTTTC TGTGAGGCT TATCAATGCT CTTTCTATCC GCAGCTTCTT 60

CCAGGCAGAT GAATACTGGC AGTCGCTGGA GCGTCGGCAT GTTAAGGGGT TTGGATATGG 120  
 TGGGCTGACT TGGGAGTGGC AGCATGGGCT GCGCAGCTAT GCATTCCCGA TGCTCTTTGA 180  
 5 AATGTCTGAC TATGTGGGCT GGATACTGGG TGTGGCCACC CGGATGGGCG TCAGGGGGTT 240  
 GGCACATGGG ACGGCGCTGT GTGGGGCGGT GGTCCCGAGC GGCGCGGGCG GCGTGGCCGC 300  
 GATGAAGGCC GTCTGGGAGC TGGCGAGGC AGCGCAGGAA CTGGTGGAGT ACTACGGGGT 360  
 10 TATTGTACGG GCGCGAAGT GGTGATGGCG GCGGTAGCAG CGTTGGGGGA GTTCTACAGC 420  
 GTGCTGCTGG TTGCGCAAGC TGTATCTGGG AGTCGGGAT AAGGGGACA CCAGAGGGC 480  
 GAGCGCGGCC GTCAGCGGTT GCGGTGATGC TGACCATGAC AACTTCTTCA ACTGTTTCTT 540  
 15 CGGAGCGGA ACGTTCATCA CTCCTTCGAG ATGAAGCTCA CGCGTGGCGC TCTACCATTG 600  
 ATTGAACGGG CCTCACTTGG TTCTCTGCT TONCCCACT TGGGTGGCT CTTTGGCTG 660  
 CCTCAGCCA NTACTTTTTA TCTGGCNCOC TGCTNTCTT GGTGNGANC TGTTCCCCCN 720  
 20 AANGTCNCN CCTTTTAAC CGNCCCAAGT TGGCCCGAGC CCTGGGGTN TTTCAATCCA 780  
 ANNANNC 787

## (2) INFORMATION FOR SEQ ID NO:341:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 840 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1268UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:341:

GATCCAGGTA TACCGGCTC CGTCGGGAG CGAGCTGCC AGCGCTTCA TGCTGCAAC 60  
 40 TGAGAATGCC CTCGACCTGA TGTGGGTAT GCTGACGATG GACCGCACA AACGGTGGGA 120  
 CAGGACTGGT TGGCTGCTCA GTCAGTATIT TGTAGAGCTT CCGGAGGGA CACTCTCTAC 180  
 GGAAGTTCCA AACTAAATA AGTAATGACT ATGATAACCT AGATGGTATA CTCGGACGTT 240  
 45 TTGTGTTTGT GCTTGAGGC GATGACATIG GCTTTTATGG TATCGCAGAC GTTGGCTGAA 300  
 AAAGATTCAA CGTCTGGTA ACAGATTTC GCAGACTACT TGTGAAAGA ACAAAGACCA 360  
 GAGCGCTGGG ATGCTCACC CAATGACGAA CCGACTCCG CTTATGGCG CTGGCTGCAG 420  
 50 GTTCTTAGC ACCAACAATA GCGCGCACT GCACAAGATC TTTCCTCC AAGAGCTGG 480  
 TGAACAGGAT CTTGTTCAG CTTGATAGCC GACTGACCTT CCGGAAAT ACTGCTGTA 540  
 TAGAGCAGT TGTACACCC AATGACGAG TAGTACGGG ATTTGTAGTA CCGCGCGGT 600  
 55 TGAGGGGCGC ACGAGTTTA TGATTCTGA AAGGTGCTG AGAAGACTG CCGGCAGAA 660

CGAGAGCTCC CATGGCCNTC TACTTGCNCC GGANAACAAC TGCTTTACTT GCTGCCANT 720  
 5 GGANACNAAA ATGCAAGGNC NCTNCCCTTG ANCCCGTGCA CCGNITGGCC NAAGGNNOGA 780  
 AATGAATTTG CAATTTAGNT CNGATTTTAC NCTCTGNTC CCCCCCCCCA CTGANNGANC 840

## (2) INFORMATION FOR SEQ ID NO:342:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 787 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1269RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:342:

GATCCCACTC TTGGCAAGCT ATACGGTGAC ACTATCATAG CTGGGGTGG CCTCTACGAG 60  
 25 ATGGAAGACA ACGTGGGCGA GTTCTTGGAC AGAGAACCCA ATAACGAGGC GTACCTCAGA 120  
 GATCAGGGCC TAGCCTAAAT GCTCCTCTT TTGGGGGCTT TCTGCCCCC CTATGTATAT 180  
 TCCAGCTAGA GAATGCAAG CAAGCCATAC TTAGAAATAG GATAATTGTT CCGGAACACT 240  
 30 GATTACTGT GCGTTACTGC TCCGGAAACT CACCTGTTCG GTATCGAATA ATTAGGGTTC 300  
 GACTACGGCC AGTGTGATGC TTTCTTTATA CCGGCATACT AAAACAGGGT CCTCAGTGA 360  
 ATCGTGTGTC ACTGAATATG AGCCCCCA TGAGTTOCCA TGGGCTAGAG CGTCTATGT 420  
 35 GCAGACCATA TCAACACCT CTGTACAGC GTGGAGTICA ATATAAGGT ACGACGACA 480  
 TACAATAGTA CGTGTGCCA ACCGTATAC GAAGAGCTGC GTTCTGATTG CAGCAATTCC 540  
 CAAGCCCCG AAATACAAA CCGCATTTT AGCCAGTGC GATAGATGTC CTGAACCAG 600  
 40 GAATTACANC GAAGGNCGAT TGCTACTACN ANCATCANC AGGGCTGNG TATTTCTCAT 660  
 CCATCCCCCT CNAACNAAA ATCCGANTT TTAAATTTT CATGCAAACC AINCANATCC 720  
 CCNTTTGAT ATTCCCCAC TGGCCCCCC NCCCCANNT ANCGTGGG ATCCNGNATT 780  
 45 CCCCCGT 787

## (2) INFORMATION FOR SEQ ID NO:343:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 820 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1269UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:343:

5 GATCGAATTC CATGAAGGAG CGTAATGGCC TCGTGGAGCT GCACCGCACT GGGTGGGTAC 60  
 ATAGCGCGAT GTAGGAATGC GGGGATAACG ATTCCGAAA GCTGACTGGG CTGGCGCTCT 120  
 AGCTTCAGCT CAAGCTGGCG CAGCAGCGTT GCTATAGGCT GTTGTGGCGA CAAGGTGAC 180  
 10 ACTTCAGTTC CAGTAGGAGC AGGTAGCATA CGACTAGTTC TATCGAAGTC GTGCGCGTAA 240  
 TGAGGATGAG GGTCAATTTC TGCTGCGAG CGCTGGCTAG CACCACAATT ATCACCAGT 300  
 CCATACCTCC ATGCAATTCT GAGATCTTGG CTAGTGGCGA CCGTTTTCG ACCCCCTCCG 360  
 15 GCTAAGTTTC GCACCGTGAC CTTCGATTCC TCCTGGGAAA TCGAGATTTC CTTTACCTCT 420  
 TTAGTGTGC CTTGGAATAT CCGCGGCAGC TCCTTGGCAT ACTGAGTGTG GAGCGTGATG 480  
 ACCACCAT GGTTCATCCC CCCCCCTGNN GGGCCCCNAN TTTCCCCCCC GGTTCATTCT 540  
 20 GTCCCTGGGC CTGCAANAAC TTCCANTTAC GAGCAATCT GGTCCCCCTG TTCTTCCCCC 600  
 AAAACATCTG GCGCATTTGA NCCCATATGC CCTAGAACCN ATCCAATCTG CAGCCCGNGA 660  
 NTTTTTGAA ANNAATTACC GGNAGGANC AACCGGAAG NAAAGCCCCC CCCCCCTGTG 720  
 25 GAGCCNACTT CCCCCCCCCC NAAACCGNA ANTTNMTTTC TNNTTTGGCC CAGCCGNCN 780  
 TTTTCNGCCC NGCGGGGAG GCCTTAAAN TTNCCCCC 820

## (2) INFORMATION FOR SEQ ID NO:344:

- 30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 806 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 35 (ii) MOLECULE TYPE: DNA (genomic)  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1270RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:344:  
 GATCATATGG TGAACCTGGC ACATACAGTT GAATCATCCC AATAGCAAAG AGAAGGTAG 60

45 AATTACCTAG CCGGGCATCA CCTGGAATAT CTAGCATTTG CAGCGCAGGT GAAAAGAATT 120  
 TCTCATGAAT TGATTGGAAA TGTGGTTCCG TGTGTTCAT TGCTAGCCCC GCTAGTACAC 180  
 GATAATCATC ATTAGACTCA CAGGTTAGAT GGGCCTTCAC TGTTGCCCTA TACCAGTCTA 240  
 50 ATAGAACCTG CCTGTACGA GCATATTGAT CCTGAAGAAT AACCAACGAT GGTCAACCA 300  
 TCGAATTGAG CAACAATGTC GGTTCATTCA CCGTTTGAGT GATGTGACTT CCGGTGAAAT 360  
 TCTCAAAGGA AATTAAATTTC GGTATCAACC CCTTCAACAA GGAAGCTGTG AAGATATCAT 420  
 55 CAACATCGCA TTGTAAAGCT AAACCTTCCC GCATCCATAG GAAATCAAAA GTGGCTGGGA 480

AAGCATAGTT TGGCGTATTG GCTTTGACTA ACTGCGAAGT TAGAATACTA CTGTGTGGCG	540
CCAGTTTGAA TAGCAGAGTT AGACATTCAA CGGATTCTNA GAATATAATC CTNGCGAATT	600
TATCCATCCN OCTANAAAAT TTTTCCNCC TTGATCCANA ACNANAAAAT TCCGTTGACC	660
NCTGAAGACC TATTCCINCC TTINAAAGAC CTGCNCAITC TTGNATTTCC CNAANGNITC	720
CGGTTCTACC NAGAAANTTC TTGCATGCCN NCATGGTTTN AACCNAAACN TCCTTTGANG	780
NTAMINACTT CCCCCNCCC AATTEA	806

(2) INFORMATION FOR SEQ ID NO:345:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: FAG1270UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:345:

GATCGGATTG	TCAAATTTTC	TGAATGGTAT	GGTAAAGAAGT	TTGGGGCTGG	AAAGGCTAAC	60
AGTGGTGTTA	TATCTTTTGG	TGATATTTTA	GCTTGGGTGC	AGTTTCATTAA	TAGTACCTAT	120
AAAGGCATTG	CTTGCCCTTA	TGCTTCATTA	ATCCATGGGG	CGGCAATGGT	ATTTCATTGAC	180
GCCCTTGGAA	CCAAACAAC	AGCGTACCTT	GCAGAGAGTG	AGGAACGATT	AGAACACCAG	240
AAGCAAGAAT	GTCTCAAATA	TCTGTCTGAA	CTAGCAGGAA	AGGATTTTAA	CAAATACATG	300
TCTGGTCCAT	TGATGTTTAA	GATTGACGAT	GAAACTCTCC	AATCCGGGCT	TTTTAGCCTA	360
CCCAGAGTTT	CTTCTCATC	TGTCCAACCG	GTTTTCAATC	TTGGGCGACT	ACTACAGCCT	420
ACAATCTCAT	GAAAGTTGTC	AGAGCAATGC	AAGTACAAAA	GCCATCTTAC	TGGAAGGATC	480
ACCTGGTGTT	GGTAAAACCA	CATTAAATTC	CGCATTGGCT	GACTGTACCG	TTACGAATTA	540
CCCNVTTTAA	TTATCCGAAC	CAACTGATTT	GAA/GAATTA	TTTGGATCCG	AAGCNCCCCG	600
AAAAAAAAAN	GGNAATTTNT	TTTNGTTTGA	TGCCCCCNIT	TTTNAAACTA	TGCCAAAGTG	660
GATGGTTTTN	TTTAAATAAA	ANNANATGTC	NCCCCANCN	TTTTTTAAGN	CNNACCTGT	720
TTGNNCCNT	GGNGAACCCA	NTCCCAAATT	TAANAAAATT	TNTCGCCCCC	ATCCGCTTTT	780
TTGNTNCCCA	AACCCANACA	GGGGNGGTGA	AAAGGGNTGC	CAANCTTCCC	TC	832

(2) INFORMATION FOR SEQ ID NO:346:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1271RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:346:

10	GATCATTATA TTATAAAATA TAATAAAGAA TATATTTAAA TAATAATAAT AATATGAAAT	60
	ATTATATTAA TTCTCCATTG GAGCAATTGG AGATTAGAGA TTTATTAGGT TTAACATCAC	120
	CAATAATAGA TTTTAGTTTT ATTAATATTA CTAATTTTGG TTTATATCTT ATAATTCCTT	180
15	TATAGTAAT TTTACTAATG AATTTAATAA CTAATAATTA TAATAAATTA GTAGGTCTTA	240
	ATTGATATTT AAGTCAAGAA ATAATTTATG ATACTATAT AAATATAGTT AAGACACAGA	300
	TTGGTGGTAA AGTTATGAGG TTATTATTTT CCATTAGTTT ATACATTTTT TATTCTTATT	360
20	TTTACTATAA ATTAAATTAG TATAATCCTT ATTCATTTGC TATAACTTCA CATGTAGTAT	420
	TTGTAGTATC AATAAGTATA ATTATTTGAT TAGGTCTAAC TATTATGGT TTTTATACIC	480
25	ATGTTTAAAT CTTTGTTTTAT TTACCACTA GGTACACCAT TAATTTAGTA CCATTATTAG	540
	TATCCATIGA ATTATATCCT ATTGCTTNNN ACTTATTCCA TAGGTTTTTA AAATACACTA	600
	ATATATACCG GTCCATTTAT AATGGTTATT TAGNNGGTTT AATATINAAT TNNAAAACAN	660
30	AATATTTACA TTTTATGGIN NCCNCCCAAN AAGGCATGG TTTGGTINIT TAAAAAGCN	720
	ACCTATATCN CCTANTTGAT NTTTTTTAIN CCCCCTTTTA AANANONATT TTNNCCTTAT	780
	TAAANTAAAT C	791

(2) INFORMATION FOR SEQ ID NO:347:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 834 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1271UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:347:

50	GATCAATCTT TCGATCATTG TCCAATATTC CCCACTGCTG TATCATATAG ATATTGATTA	60
	TAATTTCTAA ATCAAGTGA TTGTCTAAC TTTAATTAAC AATTATGAAT TTTTGGCTAG	120
	TTATTATTTT TTAATTAAT AATACCTAAA TCATTATAAG CTTGACTTAA AACAAATAAT	180
55	TATTACATTA TTCTTTATTT ATTATTTAAT ATTAGTTAA ATTTTAAGTT CATTATCTTT	240
	AATTTTACT CACGAGTACA CCACTTATTA ATACTATTAA TTAATAATAT TAACGTTTGA	300

TTGGCAATGTG TAATGTCTTT AGTTAGCGCT TAATCTGAAC CAACATCATG TTCTCATTAT 360  
 TATTAAGTAT TTTTAATTAT TTTAAATAAT TATTTAATAC GAAAGTTATA GGATTCGAAC 420  
 5 CTATGAAATC ATAAAGATTT ATAATAGCTC AATATTACA CTTTAAACCA CTCAGTCAAA 480  
 CTTTCTTAAT ATATATACCT TATATATGGT TTGATAATT ACTTATAATA TATAGTATAT 540  
 AATTTAATGA TAACTCTTAT CATTTAGGTG CGTAGGGTTC ACCCCCCCTAT TGCTAGTCAG 600  
 10 CATATGAGGT ACCTCCCCC AATGATAAAA GTTATAATAT ATAATATTAT ATTAAGTATT 660  
 TAAAGAAAT AATATAATTA TTTAATAATA TTTTATTTA GGNATAAA AAAAANTTTC 720  
 ANNTTGAAA NANGGTCNG AGAATTANAA AAAGCNAATA ATATGTTCAA TTTGACCCAT 780  
 15 TAANAATGTA GININCTGAC ATCNOCTATT TCCATANAA ANTTTANAAN AANA 834

## (2) INFORMATION FOR SEQ ID NO:348:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 813 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1272RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:348:

GATCAAATCT AGGTTCTCG ACGCAACGG TGACGAGTTC GTGAACGGC TCAAGCTCTG 60  
 TGCTTTTTC CATAAACACA CAGACAACAG CAATAAATG TTCAAGAGT TTGAGTCTTT 120  
 35 CAAGCTCCA AAGGAGATCC TAGAAGAAG CAAAGCCAAG CTCGAGCGTA AGCAGAAGTT 180  
 CATCGAAGTG GAAACAGAGA AGGAAGCTCT AGAGTCTAAG CGGTGGGAAA ATCCAGAAGG 240  
 AAACCTGGCTA CTAAAGCCAT GTATATATAA ACGAGGTGA TTGCCTAGTC TCTTCTCAGC 300  
 40 ATGGGATCAT ACCTTATTCG TGTAACTTA TCAAACTATA TATAGGGCGA CCGACAGCTT 360  
 CAACCGTTCC TAAAAAAGGT TTGGAAGGTG AACAGCCGCT GGATGTTCTC CACATTCTGT 420  
 AATGTAGGCA TTTGTGGCCA TATGCTGCTT GTCTCGAGC TTTTCTTGTT GGGCTCCCAT 480  
 45 CTGTGCCAG GAGCGGAATC CGTACGCAT TGTACCTGTT ACCCTGCTGC GAACAGCAC 540  
 AGAAGAGGCT GATAATTGTA GTNCAGCAC ACCATAGAG CCGAACAATG CCGCAAGCGC 600  
 AGTGTGCGT TAGTTTGAAA TCCAAAACA CTTCGAATCA TGGGTTCCTC GGAGGCCCAA 660  
 50 TTATCGAAN TTGGCTTTTA AANTCNAAT ACAANGANTG CGCCCGVGT CCGCTGTACA 720  
 TTGTCCCCN CCTAGGNGC CCACTCCCN CNCAANTTT TTATTCATTT AATTCINNG 780  
 NCCCNCTTT GTGANAATNG AATTCANITT TIN 813

## (2) INFORMATION FOR SEQ ID NO:349:



- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 844 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1272UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:349:

15	GATGAGCCCC GCGGCGATCG GGCCCTCCGG CCTGCTGGGC CCCTCGGGCC TGGGCTGGCA	60
	CCTGCTCTAC ATCTTCACCG TGGCATCTT CACCAACGAC TTCTTCATGT CCGGCTTCTG	120
	GCTGGGCACC TTGGCCGGCG GCTCCACCG CGACCTGCTG CTGGGCTGCT CGCTGGCCGC	180
20	CGTGTGCTC GCGGTGCTG TGTGCTGCT CCGGCTCACC GGCCTGCTCG CCGTGTGGGC	240
	CGGCTACGGG CCGGTGGCAG AACTGGACAG CCGCAGTTTC TTCTGCTGC TGGCCGGGCT	300
	GCCCCGCTGG GCCAACGGCG TGTGCTGCG CCTGTGCTG GTGCTATCCA CCTGCACGCT	360
25	CGACTCTTTC CAGAGCGCAC TGTCTCCAC CATTTCCAAC GACCTCTTCC CCGAACCGCC	420
	TGCCCCGGCT CTACGCGCGC GCGCGGCTCG CCGTGTGCTT GGTCCCCGTC GTGCTGCTCG	480
	GCTGCTGGC CACCGGACAT CCTGGGCATC TACCTCATCG TCGACCTGCT GTCCGCGGCC	540
30	GTGTGCCCCG TCATGCTGCT GCTTCTGGC CGCGCGCCCG CGCGCCCTGT TGTGCCCTGG	600
	AGCTGATCGG CCGCGGCTCC GCGGGCTGT CTGGGTTCTC NCTTTTCCCG CCATCTATAA	660
	CGCTTNNCCN CNANGGGNC GCVTGTATIT TATTGNAANG NCCCTACTIN AATAANGGGG	720
35	NNCTTNNGN GCTTNGTNT TCCCCCNIN GCGAAGTGT TTCCCGGNA NAANTTNGC	780
	CTGGGNNCCC GTTGGNCCN CCGGANANT CANGTAACC NCAGGGGAAN TCCAAANTTT	840
	CTNC	844

(2) INFORMATION FOR SEQ ID NO:350:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 792 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1273RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:350:

55	GATCCCAATA CAAGCAATAT TGTCGCTACC AGAATGCCCC ATTTGCGACC CATATAATCA	60
	CAACCGAATC CCATCCCCAC CTGCCCTATG ATAGTCCCTA TGAGTGATGC ATTTGAAACC	120

CTGTGAGATA CATCTGCACT ATATTCTATC TCACCGTACT GATTTCTGAA TACACGGTTT 180  
AACATCGACA TGACATTATT TTGGTAACCA TGTGAATAA GCGCAATCC TGCCGCCAGG 240  
5 ATACTGAATA GATGTAGCCA TTGCCCCCTC TTCCCCACAG CAAAAGTGC TTGCGAGGC 300  
TCGGGTGAT ACTTTAGTAA CCTGTCTGTG GACATGTAT TTCTGCAAGC CCGGGCTATC 360  
CGAATAATAT CTAGCGGGTC AAGCGTTAGG TTGCTGCAAT CTATATTATA TATTTCCTCT 420  
10 CTCTACCAGC TGCAAATTA CTGTATGAT TATGCTGCAA TCTCCGCGTT CTACTTCCTT 480  
TCTTGGAGAC CCTACCGAC TGCTTTATGA TTATCGGTGC ACCATATGGC GTCAAGCAGC 540  
ACTAGCTTTT ACCTGIGATA CCTTCCTTCA CTAAGTGNAT TCGAACTAN TTGNNCCCA 600  
15 TACTATATCC TTCCCCTAGA GIGAAATAAC CTTCATTTA GGTNNNTCC ATTCCCGAA 660  
ACAGTTTTTA AANAANACA ACCTTATCC TTNAACCCCA AACGCCCAAA AANAATAAT 720  
TCCCCATTIN CTAGGTTTTT TNGCCNGGA GGAAGAAAC CCCCCAAC CCCCTAANA 780  
20 ATTCTCTNC CC 792

## (2) INFORMATION FOR SEQ ID NO:351:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1273UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:351:

GATCGGGGTA TAAAACTGAA AGTTCATGTA TGCTGTCTTG AATGCAGAGA CCGCGGCAC 60  
TTTACACATC GCGAAGCCTT GTGTGCGAA TGAAACATTA AGTTTATGTC AAATACCATG 120  
40 AACTGTATGC CAAATTTAGT AAAACTCGTA CGTGCTGGCA GCATAGATAG AGCTGTTACC 180  
GATATCTGCC TTGAGGCTAA AGCCGAGCAT TGGGTATTAA CTTCCTTGA CTATTGCGAA 240  
TCAGAGCTTT CAGATTGTC TTTCATGCG TCAGTCATCA AAGTGTGGA TGTAGGATGT 300  
45 TCTATTTTCC CACCGCAATA AAGTGCAGTA TTTCATGAGT ATTCAATAAG CTTACCTCTC 360  
ACCTGATAT CTAGCACATC AGCTGGAGCG GAACCTAACC AGACACGAG TTTAGTGGCC 420  
AGCTCTTGA GGAGTGAAA TATTCTTGG TCCGGCAATG ATCTTCATGC GCCATTATAT 480  
50 GCGTAACGT TAGGTACATA CCTGTGACAC CCAACAAAGT ACAGTTGCTA AGTCCCAAT 540  
ATCTTAAAGG ANCCGTTTAA ACCCATATT AAGGTGAAGT TTATGAACCT TTGANAGTAA 600  
CTGNNICNT ATAGCGAAT ACCANANAA TAACGNCCT GTTANGNAT CTATCGAAGG 660  
55 NITACTTCN NITGANCAT TTTATAGTTC NINCTATTAC CCGGANAAA TTGAACAAC 720

CNTGAGAAAA GTTNTNNCCN CNGGGAAANG AAAANTNTNC TTTTGANTCC CCCCCTTTAC 780

5 CTTGAAGNIT CTCCATTNC GAGATTCAAA TTTTNTAAN AAGGANTTN TAA 833

(2) INFORMATION FOR SEQ ID NO:352:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 803 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1274RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:352:

GATCAGAACC AAAAAGCAGT TCGAGTATAT CAGTAAGCAC TGGGAAGTTT GGGAAATAGC 60  
AGTGCTGAGA GTTACGGGAC AGATTGGCAA AGACACATTT GCGATGGAAT TTAATTCGCC 120  
GCAGCCAGAG CACGCACAAT TACACATTCA CCTAAAGGT GCAGCCCCGC TGCTGGGAAA 180  
ACTGCACGGG GAGGGTGGG TGATGCACCA CGAAGATAAC CAAGAAAACC GGGGCCGGGA 240  
AGGACCGCTG ATTCGCTCAC CGCCGCTGTC ACCAOGAATC GGGCCGGGAG AGAACCGGGG 300  
CGCCGTNGGA ACGGAATCCC CGAACCTTTT TTTTACCCC AACTTGGNTC CCGCCTTAN 360  
TTTCAAACCG NTTCNAAACC CCNCCCTGG GTTNTNTNC CCNNNCCCA NTANITGGGC 420  
TNCGGGGGGG GGGGCCCN CNAAAAAAA ANGGGGTNTN CCGGGNGGC CCCCNGTTTT 480  
ANCAAAANAT TTNCCCCCGG GGTTCNCCC CNPAAAGGT TTTTCCCCC CCGGGGTTT 540  
ACCAAAAANC CNGCCCCCCC TTTGGANGGT TTCCCNNTCC CCATGGGGGG TTTTNCGGG 600  
GCTCCCCCN GGGGAACCCC AAAAAAGGC CCCCCCTTT NTGGGCCCC NAAANNCCCC 660  
CNTNNTTTTC CAGANGGGT NCCNCCCCC TTTTTTTTCC CCATTANNCG GGAANTCCCN 720  
NTNTTCCCC CTTTNNCCCC CCCCCAAAA ANNAATTTTT TNNATTAAAA GAGGGCCCCN 780  
NGAAAAANAA NACCCNCCC CAC 803

(2) INFORMATION FOR SEQ ID NO:353:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 814 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1274UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:353:

GATCAATTGC GGATACACGA GGCACAGGC GATAGGCCAA GCTTCCAAGA ATGGGAAGAG 60  
 5 TACCTAGTCA GGGTGGTCTT GGTAAAGCTG AACCGCTGCA AGCAGCTCTA TACACAAAAT 120  
 GTAGAGATTG TATTGATAT ATATCCGAG ATAGACGGCC CATAAACACT AATGATAGCC 180  
 TAATTATAC ACCTACAGCG TGTACATCAA ACACACACAC AAGTTTGATG CACACGCTTT 240  
 10 ATTTGTTCTT TCACACACT TGATTTAGAC GGTCAACACC CTCAAGGTGT TAGAGTGGCC 300  
 AACACCAGAC GCGAAACCTT GAATAGTGAC AATAGTGTCA CCTGCGCTCA GGATACCAAG 360  
 CTCCTTGGAC TTCTCCACAC CGAAGTTCAA TCTGGGCTCG AGTCATCGG TCCACTCATC 420  
 15 AGCTGGCTCC TGTCTGTAGA CGAATGGGAA GACACCTCTG TGCAAGTGGC AGTATCTGGC 480  
 CGCTCCTTGG TTCTGGTCA CCATAACGAT TGGAACTTT GCTTGTACT TGGAGACCAT 540  
 CTGTGGTGT CACCGAGGT TGATACAGA ANATGCTTG GCTTCTGCTC GAATNCCGC 600  
 20 GAAACAGCA CACAAGNCC CGAGGTGAA TTGGCTTGT CATTTCTGA GTCACGAT 660  
 TTGAAGTTT GGAAGGCTG CACACATC AAAATCTGC CAGNNTAAA CGTNAATGGT 720  
 TGANACCTG GCGTCCCN AAAAATAANA TCCCGCCN GAAAGTTCC ACTTGAACN 780  
 25 CCGGCTGT CTGTTTGTN TGGTANCCCA ACCG 814

## (2) INFORMATION FOR SEQ ID NO:354:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 754 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1275RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:354:

TGACTGGCT TGTGAGGAA CTGACGCTTT TACTACATGT AGATTGAAAC CCGTTTCTCT 60  
 GGATCGCTC GTCTGTTGC TTGGTATCTT TGCCAATCTT CCTGAGTGA CCGTGGCTGT 120  
 45 AGAGGATCTT CCGATGGGC CAAACAGGC CCACAGCC AAAGAGTTG GAGAGAGGC 180  
 TGAAGAAGGT TCATTGACCT CCTTTATGGC TTCAAATGCT GACGGAAGTG ACAATGTT 240  
 CCCAAGAGC ATGTCCGACA ATTCTCTGAC GGTGGACTCC AAGACCTGA TCGCTCTGC 300  
 50 CCTGGTCTTT GATATTCTAT GGATAGTGGC AATGTCCTT GAGAGTGCA TGTCTGTT 360  
 TGTGAGTTT AGGTATCAA GTTGGCAAT AGCGAGCTGC TGTCAAGTT GGTGGTTTC 420  
 TCACAGCT GTGCTCTGT GTGTTTCAAG TGTGTCATCA GTTCTTTAA GCTCTCTT 480  
 55 ATCGCCGAT CGTCACCTG GACTGNTATN TTTTTCAC NCCATTNN CCATAATTG 540

NTNAAGNAGG TNOCCCNCCG GAATTTINGNT CCGTTTCCA NAGNTOGGNC CGGGGATAAT 600  
 TTAAACNITT AAAAATTANC CCGGGCCCTA NITCCTTTTN CCNAATNNNN GNCCCCCCN 660  
 5 GGAANNITTT NCAANNCTTN TGNCCNTAN CCTTTTNNC CCCACGGTTT TTNVTCOCCT 720  
 CCCCCTCCCN ATTINNGGANT TCCCCNTTN CCCC 754

(2) INFORMATION FOR SEQ ID NO:355:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 842 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1275UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:355:

GATGCCCCAC ATTATGTC TC AGGTACTTT GTACGTTAAG AAGACCTGCC GCTGATGCT 60  
 25 GCTCAGAGC ATGCTGAGC ACTACAAC TT GGAGTCTCT ATTGTGATG CCGACAAGAA 120  
 CGAGGAGTC GAGAAGAAGT TCCATTGAA GCGCGCTCCA GCGTTTTCCT GTGGGCTGG 180  
 AAATCTAACT GAGACCATGG CCATCACCTA TTACTGTAAG TTGCCACCGA CTACACACCG 240  
 30 AAGCATGGAG CCTAGTGTG ATGAGAAAC CTTCGAAAA AACAGTTATC CCTGTCTGAA 300  
 TGGCATAAT ATCTGGTTC ACATGTGTG AGAGACCATA CTCTGATTTA GAGCTACATG 360  
 CGAGGTTCG AGGAACAGT ACTAACCGAA CAACAGTGT CAACCTAATC CAGGACGAGA 420  
 35 AGGCAAGGC TGCTCTGCTT GGCTCCAGC TAGAGGAGCA GGCACAGGTG TTGGGCTGG 480  
 AGTCTTTGAC CAACACCAAC TTCATTGAG AGTTGGCTC TGCTCTCTAT ACCTAGAGAG 540  
 GGTGTGGTCC CTTTNCACCA ANNCNACATG GAAAAAGN CN TTCCNGNGG CGAAACNTTN 600  
 40 CCNAGNGTT TTNNAAAAA GAAATAACN CTTCCTCC TTACCCCGG AAANTTTTNT 660  
 TTCCGGGAN NCCNTGN CN TNGGGGGGT GAACNNANT CCCACANTT NGGGGNGNN 720  
 NTGGGNGNG GCCCCCCCC CCNNNNANG GTTACCCCTT GGGTANCCCC NNNTNAAAAA 780  
 45 CNCCNCCCC CCTTTNGTC GGACCNAAAG GGGGGNCCC CAAANGAAAA AAAAAAAAAA 840  
 AA 842

(2) INFORMATION FOR SEQ ID NO:356:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1276RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:356:

GATCGTATTT GTTGTTGACC AGTAGCACTT TTTTCATCTT CCGTTGAGC ACCAOCCTCG 60

10

CCACGTTACC GAGGATC 77

(2) INFORMATION FOR SEQ ID NO:357:

(i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 77 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1276UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:357:

25

GATCCTCGGT AACGTGGGG AGGTGGTGT CGAAGGGAAG ATGAAAAAAG TGCTACTGGT 60

CAACAACAAA TACGATC 77

(2) INFORMATION FOR SEQ ID NO:358:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 822 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

35

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1277RP

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:358:

GATCGTCAC GGACAGACTG AATGGTCAAA ATCAGGTCAA TACACAGGCT TGACAGAGCT 60

45

TCCGCTGACC GAATATGGTG TGGCCAGAT GCGGCGCACT GGTGCTGCGA TATTTAGCGC 120

AAAATACATT GATCCTGCGC ACATAACATA CGTATTTACT TCTCCAGGC AACGCGCGCG 180

GAAGACTGTG GACCTGGTTT TGGAAAGCCT CAGTGAAGAT GAACGTGCAC GCATCCAGGT 240

50

GCTGGTCGAC GAGGACCTAC GGGAGTGGGA GTACGGTGAC TACGAAGGTC TGCTGACAAG 300

CCAGATTATC GAATTGCGTC GTAGCCGTGG CTGGACTGC AAGCGCCCAT GGAATATATG 360

GCGCGACGCG TCGGAGAAG GCGAGACAC CCAGCAGGTG GCGCTGAGGC TATCAGAGT 420

55

GATTGCCCGG ATCCAGGCAT TACACCGCA GCACCAAGCT GAGGGAAGGC CGAGCGATAT 480

TCTGGTGTTC GGGCATGGCC ATGCTCTCCG TTATTTTCTT GGGCTCTGGA TGAAGATGGG 540  
 CGTGAAGCG CCGAGGCCAG ACTGGCCCAT GGGCTCGAGT AACCGGAATG AGGATCGGTG 600  
 5 CCTTGCTGC GGGTCGAGCA ATCCGTACTT GCAGGACACC CCACTTCTTG CTAGACGCAG 660  
 GTGGCATCGG TGTGTGTGCC TACCCCNEN ATTTGAGACC ANTCTACTCN CCTGGCCNTT 720  
 CNTTGGCCCC CCGAGATCCC CCCACGGTNA GTCCACCGA AAATTTTAT ATCTACAAGN 780  
 10 GNGTCCCCC ATGAATATAC CNTATCTTCT TAATCGTCN CN 822

## (2) INFORMATION FOR SEQ ID NO:359:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 818 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1277UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:359:

GCGTCTTC TGCGGCAGC GCGAGTCAG GTCCCGCAGC AGGCCCCAGC AGGCGACTT 60  
 GCGCAGGCGA TAGTACGGT ATGCGACCAG GCGCGCCGC AGCAAGTTC TTGCGCGAA 120  
 30 GAACAGAGG AACCGCGAGC GGCTAACAG CTGCACAGC TGTCGGTAT CTGCGCGAG 180  
 CGGTCCCCG GAGGCCAGC CCATGGTGT GCGCACAGT CCAGCATCA CGCGCCCCC 240  
 GCAGATCAGC ACCGTCCCGA CCGACGTAAG CATACAAAC GGTCTGCGA GCAGCCAACA 300  
 35 CGAAACCCAG CTGTTGAACA GCGTCCCA CGCTGCAGC GGGGCCAGCA TCACAGTGG 360  
 TAGGTGGCA ATCTGCATG TGCTTCGAA CAGTTTGGT AGAATGAATA GGTTCAGAC 420  
 CATCTGCCAT AGGCGCTAC GGTACACCAC CTGCACAGT CCGGTGCCA CTTCAGGCG 480  
 40 AGCTTGCGC TGAAAGTACC AGGCCAAAA GACTGCATAC GCTTGAACT ACCGCCACA 540  
 CGACCATAA TAACAGTTG ATCGACATT CGCTTGATA CCTGCACCC TTGCTGCAG 600  
 AGTACTCTAC TGCGGGCGC TTPTGGCTCT AGGTCTCTAC GCTATGCCAA ACATACTGG 660  
 45 TCCGTGGGT CATGTTGAT GCTGTATGT ACGTGACCA TGACAGGTA CCTGTGGTT 720  
 CTCTTCGGT TCAGGGAT GATACGAAA NCGAAATTA NCGGATGAA TTTCCGACC 780  
 CTGCGANTAC GACNCAACN GGAGCGCG TTTTNTGT 818

## (2) INFORMATION FOR SEQ ID NO:360:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 828 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1278RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:360:

10	GATCTTCAAC CTGCTTCGGC CTATGAACAT TCTGTGTGA TTGAGAGGG ATACCGCTC	60
	CACCTTCTCT CGAGCGTGC CGGTTTGGT AATCCATACG TTCTTCCCA TTCTTTTGGT	120
	ATTGGTATAA GCGATGCAA TGAAACAGC CTCTTGAATA CAAATGACT TGCTACGTA	180
15	TAAAATTATA TTTTATCAG AAACITGGCG AGCATCAAGC TGGGCTTCAT TGATTCATAT	240
	ACTAAACAGA ATACACTACA TGCTACCGTC CGAAAACGAA TAATCTATTT CCANTATATA	300
	TATATATATA TATATATATA TTATAGTGT ACTTTATAAA TCTGAAGTAG GTCATACAAC	360
20	TCTCAAATCA AACGATATTT ATTCTACATA TAGCAAGGGC GAGGCACCAA TTGAAGACTC	420
	TAGGGCGGCT GAACITGGCG CTGCCCTGTA TCTTTAGGCT GTTCCTTTAC AGGTCATAA	480
	ACATAGTACA TACCGCGCTC TAGTTGGTCA TACTGGATGT TCCTCTGTTT CAGCTGCGGC	540
25	CAATTTTCGT GAGGGATATC CCACCCACAT TTCTGAGCTA TGAAAGCTGC AACGTGCTCG	600
	CACAGCCCA GTAACCTAGG TCAATTGGCG TGCTTAACGG GTCTCTATG ATAGTACTTG	660
	TGGTACGTGA GCTGGACCT GTTTACATCN CGGAACTGC GCGCTTCAN CTNITCNATC	720
30	ANCNCAATCG CATNCANNT CTGGCANNT TTTTGANTC CATGACCCCC CCNAAANINT	780
	TTCCGGTNG ACCCACACC CTTGAAATN NCTGATNIGN AGANGNC	828

(2) INFORMATION FOR SEQ ID NO:361:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 855 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

40 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1278UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:361:

	GATCTTGGAT GTACTGGGG CACATACTC GGCTTCGTG TCTGTGCTT TTTGCGCTC	60
	TGGCGCTTC CATAGCTGA TGCTCTTGG CCAATCTAG AGATATCTC TGTGCGCTA	120
50	TGGAGTAACG CTCTGCTTG CGAACTCTAA GTAGTGTAT CAACTGTGT GTATCATTTT	180
	TGCCACTGG AATCCATCA TTCACTAG CCAACCCAA GCTGCGACT ATCAAAAAC	240
	AGGAGCAGGA AGTGGCTGA AGAAGCGTC CAGGGTCTA CCGAGGGAA AACTACGAG	300
55	GACTGGTGT ATGACATCT TCCCGGATC CATCCGAGT TCAGTCTTT CGAGCTGTAC	360



AATTGGCTCC GAGGGGTCCG AGCGCAAGCG TGGTGACAAC ATCAACGACC GTATCCAGGA 420  
 GCTGCTCAAC GTGATTCCAG AGGAGTTCCT CCAGGACTAC TACCAGAAGA AGAAGGACCA 480  
 5 OGAGTCCGAG ACGGGGACCC CGGGCGCTCT GCCCAAAAAC AAGGGAACTG GGACGGCGCA 540  
 CGGCAAGCCC AACAAAGGCA GATTCTCAAG CAGGCGGTGG AATATGTGAC CTATCTGCAA 600  
 ACCAGTGGAT CTGCGCACCG CGAAGAGGTG GAGCTGATCC TGAAGGTCAG GAGCTGTGTC 660  
 10 GGCAGACGGG CAGCATCGTG AACGAGTGA ACTAGAAACA CCATTGCGA CTGCGCGTGG 720  
 GAAATGGGT TGGGCNCTGC AGGTGCTCC GGAATTNTGC GGCNCAGGG CAGCACACCC 780  
 NCGCAGCACA CGCCCCAGA CCACACACTC ATTTGGGTCC CATTGGAGC CNTAGATTTT 840  
 15 CNCTGGNCT GTTTT 855

## (2) INFORMATION FOR SEQ ID NO:362:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1279RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:362:

GATCCTTCCTG GATGCTGGTA GCTCCGATGA GGAAGTGTGA CTTTGGTAA TGCACTGCT 60  
 GCCTAAGCAT CTACTTTCAA AGGTGATAT ACAGAGAGCG TTGCTAAAA GTGGTGGATA 120  
 35 TAGGTACTTG TTCTCCATAT TAAAGATAT CCAATCGGG CTTACAGGAA AAGTCAGGAA 180  
 TCTATTGTGC ACCTATGCAT TTGGAAATCA TATTGTCCA ACACACAGCG AAAGCAAGTC 240  
 CCTTCTTATT AGACCGCAAG GCGATGGGCT ACAAAGGATA GTTTTGAAC TTCAATTATT 300  
 40 GGCAATTGCA TTGTTAGAGA TAGCGTGAT AAAAGCCCCA AAGGAGGATC AACAGAGTT 360  
 GAGTAAAAAC ATTATTAGT ATATCAACGA GTTGGCGTTA CTTCATAGTA CTCACTCTCG 420  
 AATATGGCTT TTGATCCAA GCGTATGCCA ACTTCATGAG AGATTGTTAA CTTTGTATT 480  
 45 AACTTTGACA GATCCCAAAT ATCAGGGTTT CTATATACAG GCTATTCTGG ACAITGAAC 540  
 TCTATTGAGT AACACATAT CTTTCACTTA AAGAAATGAT ATCCACCACC TTTTGAAC 600  
 ACTTGCAAAA TATTTTGGTA ATGAAAGGGA CATCCGATTA GTCTAGCAG ATTACAGTTA 660  
 50 GTAACAAAGG TCCAATTATA TTGAGACCAC TATATNTAA AATTGTCCC NIGTTATTGA 720  
 AACTTNTGC CCNGGTACA CTTATTGCTN TTONACACG TCGTNAAAA ANTGTGNTT 780  
 GTTACGATTA ACTCGTTTC TTGATTGAGC AACTTTTGT TTTTATCATA G 831

## (2) INFORMATION FOR SEQ ID NO:363:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 841 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1279UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:363:

GATCAAGAGT ACAGTTGATG AAAAGGAGTT CCATGATGAA ATATGTAAGA TGGACTTGCT 60  
 TAAGAAATTG ATAATATAAA AGGCTACGAG CTTCATATT ATAATACGCA TTGCATAATT 120  
 TATTACATTA AATTGATATA GGTATATTTT TCTTGAAGA ATTAATTCIA ATCATTTCCA 180  
 TGTGAAGATA TGGCCCTCTG TGTTACCTGC GGATATTTTG ACTCTTAGTA TATCTACATA 240  
 TTTTGGCGAG CCATTATTTA AACTGGCCAG CTTGACTCTG GACCCAAGAG CGTAATGGC 300  
 AGCAGCTCTT CCTGAGCCCA APTTCTTCAA GCAATTGAGG CACCATGTGC CGTCTTTTAA 360  
 TTCAAGCACA TATAACAGA CGTCCCGTC AATAAACCTT AGCACAATTA TATCCTTTTC 420  
 TTTCAATAC ATGTGCCGAT ACCTGGACAT TTCTGAGAT GCAAAGTTAA CAAAGCTTAT 480  
 AGCAGTGATA TCTTGGTTA GAGACATGCT TGCAAATTTT GAACCGTTGA GGTACATAAC 540  
 ATGAACGTTA TTTGAGAATA TCAACACCC ATTAAATGAA CTGTACCTGT TTGAAACCCG 600  
 AATGCACTGG NNINNTINGA AATATTNCC AACCCNCCCT TAAAGNGTC CCCCCTTATT 660  
 NNGNCTINGC TATTCCCAA AACNTACCCG NITNTTGTG NNCCAAGGN NTTTTNNT 720  
 TMTTGGCAGC CTTTLAGAGN TTTAAANATN TTCCAANCC CAAATCCANT TTTTAAAGGN 780  
 CTCCCCINAA AANNCTNGA ATGANCAGGN GAATTCGTTT GCGNTTAAAC TTCCAGINA 840  
 G 841

## (2) INFORMATION FOR SEQ ID NO:364:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 826 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1280RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:364:

GATCATCAGA CCTGTGGAG CGTTCCTAG TGGAACTCT TGTAGGGGG GAGCCCTGT 60

TGTGAGCCTT GAGCGCTCT GGAGACGGG GCTCGAGTG AAACGGAGCT CGTATCGGG 120  
 ATCGCGAGAT GTACTGGGG GACCTTAATG CAAITTTCTT CTGGAAGGAC TTGTGCGGA 180  
 CGGAGGAAAG TCTTTCAAAT ATTGACGAG AGCGGCGCTT TGAGATTGG CTCTGGAAAG 240  
 ACGGTCTTTC CAAGCGCGGC GGCAGCTTT CTCCCGTCT TGCAGCGCTT GCGCAGGTG 300  
 CAAGCAGGC CCGCTTGGCA AGAAGCGGAC TGTGCTTCAG TAGGCTTGTG TTGGTCATCA 360  
 TCGGCTGCAC CACCAGGGA TCTTTGTTCG GCAGCGCAC AAACATGTTG GACCGCGGA 420  
 GGGTGGGTC ACGGCTGGC GGAATCAGG CTGCGTTCG AAAGTGAAC GTGTTCTGG 480  
 GGCTCTTGA CATCGAAACC TTGCTCTGT TGATGGACT TCTCCGAGTC CACCTCTGT 540  
 ACGTGTCTT GCTCCCGTC CTGGTGGC TCGGCTCGN GNCNCGNT TCTGCTTC 600  
 CTGACTTTC CCCCCCTTT AGGGGAACAC GGAAGAAA NAANINCCCT TTCTNNCCG 660  
 GCGGCTGTG TCGCCCCCN NNNCCCCN CCTNNNNN NNNNNNNN NNCCNNNN 720  
 NNNNAAAAT NTAGCGGNG GAAAATGNG GTTAGNGTC CCCACNGAA CCCCCAAAA 780  
 AACNCCAT GTNCCAGG NCTTATGAN CANCTTNCN NUGGA 826

(2) INFORMATION FOR SEQ ID NO:365:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 840 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1280UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:365:

GATCATAATG CGACTATGCG CCATAAGCAG GGCAATAGC CTATCCACAT CAAAGTCCCT 60  
 GACCGTTCGA TTCTCCGGA CCGTGACGT CCGTGTACA AAGGCTCAGC GCTCCAGCG 120  
 CGGATGTCA TCCCGTATCA CGAATATCA AACTCGAAT ATTTCACTGT GAATCCTGT 180  
 GAAACACTAA CACTTCTGT GTATGAACG GAGTTAAACA TCCAAGGCA CATTGTGCG 240  
 GGGGGCAGA TTACCAATTT AACTCAGGT GTACAGGG ATGTCCCGAT TTCTATCTA 300  
 GACGGGAACA ACATATCCCA CTGGCAGCG TTGACAGT CTGAGAGGC ACTCTGTG 360  
 ATTGATTGG GTTCGAAGA GGAGTACGAG ATCACAAGG GTTAAATTT TGTGGGGCG 420  
 TGTCCCGG AAGAACTTCT CCATCTCTAT TCTCCCAAC TCAAAGCACA TCACAGAT 480  
 ATTGACAAA CTGACGGCA TGATGACGG CCGGAATAG GACTTGTCTC CTGCTCAA 540  
 TGACAGCG TCTCTCTC GCAGCATCTG CTGGGGGG TGGCAATGT CACCGATTCC 600  
 AGGGAAC TGCGCATGTA TGAAACGTG GANNIGTTTT TAAAAATTT CNGTGGACT 660

TTTCACTCCN NNNTTCACN TTTCCCNAGG CGCCAATNCN GANCTCCTNA GGGCCTGNAA 720  
 CACCATTNAN CNTCGACCTA CTCAAAAGTN TTTTATCCCC CAATNTCNIT TCCAACACAA 780  
 5 CGATCTGCTA ATTGNGGNC CAACCATCAC TTNNTGCATC ATTTTGCCAC AACAATGNA 840

## (2) INFORMATION FOR SEQ ID NO:366:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 833 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1281RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:366:

GATCCGACGT TCAGTGGACT CTTCOCATTT AAGGTTTCA ACAATTCCA AACTCATGTG 60  
 TTTAATGCOCT TGTACCATAC CGATGAAAAT GTATTATTG GAGCTTGTA GGGCTGGGT 120  
 25 AAAACTOCAA TGGCAGAATT AGCTTTATTG AGTCACTGA GAGATGGTAA GGGACGTGCC 180  
 GTCTATATAT GTCCATCTCA GGAGAAAATT GATTTTCTGG TGAAGGATTG GCGAAACAGA 240  
 TTTTAAATG TGGCAGGTGG AAAGGTTATT AATAAACTCA CATTGGAATT AACTAACAAT 300  
 30 CTTCGAACGC TAGCCCGATC GCATTTAATC TTAGCGACTC CAGAGCAGTT TGACCTGCTT 360  
 TCTCGTCCCT GGAAAAGAAG AAAAAACATT CAGACATTAG AGCTGTTGAT TCTAGATGAT 420  
 35 CTTCATATGA TCAGTAGTGA CTTCCTGGC GCAAGGTATG AAAATATAAT ATCCAGAATG 480  
 CTGTTTCATTC GGGTCAACT TGAAACGGCC TTGGGTATAG TCGTTTATC TACCTCCCTC 540  
 GCTAATGGTC CGGACTTTGG AGAGTTGGCT CGAGCTAAA AAGCTACATT TTTATTTCTC 600  
 40 CTTTCACGAA GGGTTATGCC CTTACAGATC CTTTACATC CGTTCTAGA NGCATGAAAN 660  
 TCTTTAATTG AACTATGGCC AATCGCTTCC TGACGNACAA CTCTGTGATA CTGCCANINT 720  
 TANTTTTGT TCCATTAGAA ATGTTTCAAT TCTGTNCTG CACGCGCGC GGANGAAATC 780  
 45 CTGTGNCNCN ATTAGTTGGA ACCATTCTAG GNNAAAAGAC TCTTATCCTA ACN 833

## (2) INFORMATION FOR SEQ ID NO:367:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 853 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1281UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:367:

5 GATCTGAACG TATGAGAGCG GGTITTTTACT AATTATAGAA CCATATGAGA TAGAAAATGC 60  
 GGCAGTTCCA AATCCAATAA TCGGATTACG GTGCCTTGAT GCCTCCATTG CAATCAAACC 120  
 AGTGTTTGAG AAGTTTTOGT CAGTTATTAT TACATGGGG ACCATTTCTC CCCTTGACAT 180  
 GTACCCCTCGA ATGCTGAATT TTGAGACAGT TCTTCAAAAA TCTTACTCCA TGACGCTGGC 240  
 GCAGAAGTCC TTCTTCCCAA TGATTATAAC CAAGGGGTCA GACCAGGTAG CCATCTCTTC 300  
 TCGGTTTGAG ATCAGGAATG ATCCCTCAAT TGTCAGGAAT TATGGTTCCA TATTGGTMTA 360  
 ATTTGCCAAG ATTACTCTGT ATGGTATGGT AGTGTCTCTC CCCTCATATT TATATAUGGA 420  
 ATCCATTATT TCAACTTGGC AGACAATGGG GATCTAGACG AGGTTTGGAA ATACAAGCTC 480  
 ATCCCTCTGT GAAACACCAG AGGCCACAGG AAACCTCTCT TACCTTTAAA AACTNACNA 540  
 AGGCGGCCC NNAATGGGNC GGGCCANITA ATTCTNGTGG CCGNGGGAAA ATTCTNAGGA 600  
 ATGGATTING ACNCCCTGGG NCGGAGTGTG TGAAAATGGA TCCCTCCCTT NACOGANAAC 660  
 GTTINVTTAG GGAGGTINT NTCNNINANA AAANATCCAA ACCGGGAATA CTTTTCCTT 720  
 NNAGCATGAA NCCCCCCCCT TTUGGGAAAA TTCAGGGGTG AGGAANATAT GGTTAATGIN 780  
 25 CCCCCCNCN GNNCCNNAA AAAAANCACT CCAATGTCC CAGGNCCTIN NGNACCACTT 840  
 CTNNNNATTG GAT 853

## (2) INFORMATION FOR SEQ ID NO:368:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 598 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1282RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:368:

45 GATCCGGAAT TATAGAATCG ATGAGCAITT CATTTAGCAA CCTTCTTCCA ATTCTAATG 60  
 GTTCATATAT AAACCTCCTA GCTTCTCTT GATAAATCCT TTCAAGAACA GCACCGTGGC 120  
 AGTCTGGGT TATCTTTATA TTATTTCTTG TTATGCAACT CGCATGGTCT ATGAGGTCCC 180  
 TACATACATT TAGGTGCCC ATCAGTACCA CCTCTTCCC CAGATTCTCT ATGTCTCTCA 240  
 CAGGTTTGAA TAGAGTTTTC AGGAAACGCA GCCTAAAAAC TTCACCTCC TCAGTGTCA 300  
 TAGAATTAGC AGGGCAGTAT ACGGAAATGA CCACCACTT ACAGGCCAAT TCGACTAGAA 360  
 55 GGCATCTCCC CTCACTGTCT AGTTCCTGTG CATTAGCATC ACTCCCATAG GGCAAGCCAT 420

CATAACCACC AATACCAATG GTGGGGTCTT CCAATAATGC TACCAAGGCG CCATCTTTT 480  
 TTAATTTTTT AGTGTGCTG TAATACCTCC TCCGGCTTC AATACTTGTA ATGATTATCG 540  
 5 CAAGGATCGG CTGCTTCAGG GATTCTGTTC CAGNCCACN CCNATACCTT TCTCTGN 598

(2) INFORMATION FOR SEQ ID NO:369:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 622 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1282UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:369:

GATCTGGCA AACACCCCA CTCTGTGAC CTCTCGATG CTGTCAATG AGTCTTGTG 60  
 CATGCTTCTA TCTTTCAGCA GGAACGGCC TAGGTACGG ATGTTCCGC GCAGCAGCC 120  
 25 GCAGATAGT TCGATGACG CCGGGTGTG CAGGTCACC GACTTGTAGT ACCCGGGAA 180  
 GAGCGGCGG TTGCTCATG GTAGCACCAT CAGCTCTCG TACTTGCGG GCACCTCGC 240  
 CTGCTCGGC GGGTTCGAC GCGCGCGCC GCGCGCGAA GAGCGGAC CCGGCTCGC 300  
 30 CCGCGAAGAA CTAGCTTCG AGCAGGATT CCGCTGCTT TCCGTTGGT GCGCTCGC 360  
 CTCTGTGTC CAGACCGTT CTTGTGCGC CCGCTCTCC GCGCGCGCG GCACCTTTT 420  
 GTGTGCTC TGTTCGGT CCGCGTCTT GCTTCAGTAT GCAACTGCC GCGGCTGTA 480  
 35 TCCCGACTG CTGCGCAAG GGCATCTTT TTGGGGGGG GCGGGGNNG NNNCCCCNC 540  
 CCGCGCGCG GCGGCTTGN CCGCGCGCC CCGTTGTGC TTTTCAGCC GCGGNTTGG 600  
 CCATCCCCC CTNNTTTTT CT 622

(2) INFORMATION FOR SEQ ID NO:370:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 798 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1283RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:370:

GATCAGGAAA TCGAGGGAC TGCTGATTG TCTTTATAGT CAAGCATATT AAACACAGT 60  
 55 GACTTAACT AGATTACAC GTGACATCA ATTGTGTGT TCTTTTTTA TTGAAAAAC 120

CTGCATCGAG CTATTAGATG CTCATCGACA CTAGTGTACA AACCACTCAA GGCTTAAAG 180  
 CTCTGCAGCA TGGACCAGTC GAATAAGGAG CATGTGCTTA AAAAGGAGAA GGCGACAGCT 240  
 5 AAAAAGAAGC TGCACCTCCA GGGCCACAAT GCGAAGGCAT TCGCGGTGGC CGCTCCGGGA 300  
 AAGATGGCCA AGCAGATGCA GCGCAGCAGC GATAAGCGGG AGCGCGCGCT GCAAGTTCCG 360  
 ATGGTGGACC GGACGCGGA CGACGACCG CCGCCACTCA TTGTTGCGGT TGTAGGTCCC 420  
 10 CCGGGGACGG GTAAGACAAC NCTGATCAAT CGCTGTGGG GCGGTTGACC AAGACGACCC 480  
 TCGGCGAGAT TAACGGTCCG ATCAGCGTGG TCTCCGCAA GCGCGCGCGT CTGACGTTCA 540  
 TTGAGACGCC CGCGGAGAT CTGAACCTCG ATGTGGACAT TGCGAAGGTT GCAGATTTCG 600  
 15 TGCTGCTGCT GATGGAGGT ACTTTGGTTC GAGATGAGAC ATGAGTTCCC TGACCTGGCN 660  
 CACNCCACGG ATNCCCTTTT NCTGGATTAC AANNCNCAT TTTTCATTC NAGGCCNCTC 720  
 CNGCTCNAAA ACTTTTNAAC TCGTTCGAC NATTTTNCN GGGNNCNNT CCGCTTCGTC 780  
 20 TTTTTTATGN NGNCCNT 798

## (2) INFORMATION FOR SEQ ID NO:371:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 829 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1283UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:371:

GATCCGCTGG CCCATCGCG AGAGCTATGT GCATCGGCTC ATAGTGGGCT TGATACGTGT 60  
 CTCAACCAAG ATGTGGGAAG ACACCGTCCA CTCCACGAG TATTTACGA AGGTCTGCG 120  
 40 CATATCGAAG AAGCTCTTGA TCGGCTCGA GCTAGCCCTC ATACTGTGTC TCCGCGCGA 180  
 GGGTTTGATG GTCACGGCTG CAGCTCTAAA CGCTGCCCTA AACGCACGTG CTCGGCTTCG 240  
 CGAGCAGTCT GCGCTGCCAG CCGCTGCTGC TCAGTGATAA TCGCCACTTC TAGGCCACA 300  
 45 ATTCGGTTAT TTAATAAGCA ATAAATACTC CAACACTAAT AGTATACACC GTTTGGAGA 360  
 GTAAGCAAGC AGCAGGAGT GGCAGCTTTT CTGTAACAC CTCAGCCCC TTGCCATTGC 420  
 TGCTATCTG GTTTAGGCAT GAGCAACCTT AGTCAGTTTC GAACCGTCA TATATGTTTC 480  
 50 GAACAGTTA CTTTTTGGT GAAAGAAAA AGCTAAAGG CGAAATGTTT TCCATGTTAA 540  
 CACAGCAGAT TAGAGGTACC TTGTACTGGA TATCTGTAG GATCAGGCC TACGAGCATT 600  
 CATCCAGAAG CTTTGAACCT ANGTGTTC NGGATGCCAG TINGGACTT ATNCGTGGN 660  
 55 TTTAAANAA TACTTCGTCC TAGTCTTTGG AACAAACNTG CATTGTGTGT TCTTNGTTTG 720

GANNATCGGN AAGACANCTT TTGCOCTGCT AANAAGACNG TTGGGAACNG NNGCCNNTGN 780  
 CCCCCTCCGA GNCNNGAACN GGCCCCNTTN CNNTTNNNNN GGGNNNNN 829

(2) INFORMATION FOR SEQ ID NO:372:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 817 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1284RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:372:

GATGATCTG GTCAGGTCTA TTGTGGCAC CGATGACAA AACATTTTTC TTGCAITCA 60  
 TACCATCAT TTCACTTAAC AATTGGTTAA CGACTCTATC AGAGGCGCCA CCAGCATCAC 120  
 CCATTGAGCC ACCTCTAGCC TTGTCAATGG AATCTAGTTC ATCCAAAAG ACAACGGTTG 180  
 GCGCTGGGGC TCTAGCTTTA TCAAAAATAT CACGAATGTT GGAATCAGAC TCACCAATAC 240  
 ACATGCTTAG CAACTCTGGA CCCATCAGAG AAATGAAATT ACCAGATACT TCAGTTGCGA 300  
 CTGCCCTTGC CAACAACGTC TTACCACTAC CTGGAGGACC GTAAAACAAC ACACCTTTTCG 360  
 ATGGCGATAG ACCAAACTTA ATGTATTGGT CAGGATGCAA GACGGGATAC TCAACGGTTT 420  
 CCTTCAACTC CCGCTTTATG TCATCCAAC CACCAACATC GTCCCAAGTA ACGTTAACCG 480  
 ATTCAACCAC GGTTCACGT AGCGCGGATG GATTGGAGTT CCCAAGTCCG AATCTAAAGT 540  
 TATCCATGT AACTCCTAAG GAATCCAAGC ACTTCAGGT CGATTTCATC CCTGTGCCA 600  
 ATCAATTAGA CTCATCTTCT CTCTAATCTG TTGCATTGCA GCGTCTGAAC ACAAGAGGC 660  
 ATATCAGCAC CCACATACCA TGCTTTCAGC AGCTAGCACT TCCAATCAG TCATCAGCCA 720  
 TCTCANTTCT TGNVGTGGAT GTTTAAATTC CCACCTCCA GTGCTCTGGA NACCANTTTA 780  
 TTNNGTCAA TTTACCAACT TTTAGNCGGN TTNATGG 817

(2) INFORMATION FOR SEQ ID NO:373:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1284UP



## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:373:

5 GATCAAGCTG ATATGTATTG TGGGCTACT GGTGTATCC GTGTAATCT TCTTCGGCG 60  
 CGCTCCCAAC CACGACGTA CTGGCTTCG CTACTGGAAG AACCCGGGC CCTTTGGAT 120  
 GAGCTTCGG CCAGGAAGCA CGGGCGTTT CTGGAAGTG TGGCGCGCG TGATCAAGTC 180  
 GGCCTTCGCC TTCATCTAT CACCAGAACT TATAGGCATT GCATCGGTG AGCGCGAGGA 240  
 10 CACCGCGCG AACACTGAGA AGGCATCGAG AGTTTCATA TACCGTATTA TCTTTTCTA 300  
 TGTGAGCTG GCGCTCATG TGGGGTCAT CTATCAAGA ACTGATCGA AACTCATAGA 360  
 GCGCTCGAG ACAGGCGGC CAGGCGTGC CTCTTCTCG TTGTCGAGG GATTGCCAA 420  
 15 CGCAGGATT CCGTGTCTG ACCAAGTCAT CAACTGCGG ATCTTGCTT CTGGTGGTC 480  
 GGCAGCAAC TCTTCAATG ATGCATCAC GGCATGGTG CTAGCGCTG CGCGGAGGG 540  
 AAATGCCCA AAGTTCTCA CCAAGATCA CAGATATGT TGCCCTACAA CGCGTCATC 600  
 20 GTCTGCAGC TGTCGCTG TCTTGCCTAC CTGAACGTA AGAGACTCC GCAATGTGT 660  
 CCAGTGGCTG TGAACATAT GCACCATTC CGCTCATCC GCTTGTGCG CATGGCTCC 720  
 TTATATCGT TCCNGCGT TCTTTTACA CTCNANCN TNCCTNCCA GTTCCCTGA 780  
 25 CMTTTCNCC ACTATTCNT TMTAATGNT CTTTTNGAC AATGTTCCCT C 831

## (2) INFORMATION FOR SEQ ID NO:374:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 817 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1285RP

40 (xii) SEQUENCE DESCRIPTION: SEQ ID NO:374:

GATCCGGTC CGCCACAAGC TGCTGGTCCA CATGTGCTG CTGCGCGCC CCCCCAGCG 60  
 GCGCGGAAAG AAAACCGAAA TCAAGGCCAG CATTCGGTT ATGCTCTACA TATGCGCGT 120  
 45 CGTACCTGTG CAGGGCGCA CGTCTGTT TGATAAGCT GCGCGCTTC ACATCGTTC 180  
 CGCGTGTG ACAGACTAT TCCGACGCG GAGCGGGAC TCACTTCCA GCTGGGAGC 240  
 GCGCGGTCC TACGAGTGC GGTGCAAG TGGCTGTAC GATGGGAGC TAGGCTGCT 300  
 50 TGCTTCGGC AGGGGGGCC CGCCGATTC GGCGCGGCC CGCCCCCGC CCGGAGATC 360  
 GCGACTGGT CTCTTCGCG CCTTCACG CTTGTGTTG GATGATCTAA GCAGGTGCC 420  
 CAGTACCAA CAGCAGCAG ATGGACACT CTTGCCATT CATCACTCT CCGCGGCTA 480  
 55 TGCGGCACC GCGCAACG CCGGGGGCA ACAGGCACN TGACAATCAC TTNTGGGTC 540

CGTCGGGGCC CCCCCGACCC CCTTGGGGCC TTATTCTGGC CCCCCCAAAC CNACCNVGCN 600  
 CCAATAGGG TCAACCGGG GNGTTGGNAA TTTCCTTGT CNGNNNNNG NNGGGTTTT 660  
 5 GGGCCCCCCC GGTTCNCCCC CNANTTNGC CCAANCGGA NCCGGGAGG GTTNNNGTN 720  
 NNGNTAAAA ACTTNTACCC CCCNCTTTG GGTNCNGGC CGNGGGTTT TTTTTTCCC 780  
 CCGGGNCCCC CCCCCNNGG ACCNTTNGG NACNATT 817

## (2) INFORMATION FOR SEQ ID NO:375:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1285UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:375:

25 GATCTCTTC ATGACCTAC TGTAGACAGT TTCACAACCG ATAGCCTGAA GACACAGTAC 60  
 AACCAGAGCA AAAGATATCA ACTGTTTCGG ATTCCGTAAT CGGAGCATTC CAGCTTTAAG 120  
 GACCTAAGTA TTTTGGCAAC CAGATCCAG ATGAAGGCCA TTGATCTAC AGTGAACCTG 180  
 30 GGCCTTTGG AGATGCATCG CATGTGGTTC GACACTTGGT CTGCTATTAG AAACGAAAAA 240  
 TACCTGGTA AATTATGAT ACATGTTATA TATAGTAAAA GATAACAGC CACTCAGTGT 300  
 TAAATGGTCC ATCATGCCTC TAGGACTCGT TGTGTTGCT CGACAGAACT GCAGTCCCCA 360  
 35 TTTCCTTGGT AGGTTTTTGT GAGGCTTTT TCTAATTGTC TAATTAAAG TCTGAATAT 420  
 TATCTTCAA TTGTGAATG AAAGACACAT GTACCACTAG AGGTTAGCC CGATGGCTGC 480  
 AAAACGGCAT ATTGTGATC CAATCATGC CGCTGGTCCA ACAGTTTAAT AATGCTCTG 540  
 40 GAACCTGAC TAGTCCGGA ACTGCTCTAT CATCTGGAAT ACCNCTCCT GTTATGNTT 600  
 ACCATANTCC CTTCCCTTGG TGGCCNAAIT CTAAANCAAT TTTTGNITAA ATNCCCCNT 660  
 GCTTNNCTAA GGTNAATTCC NNTTGGCCCC CCCCCTGGG TTINTCCGTT CTTTGAATG 720  
 45 GAGGAAGCCC AGGCTTGNCC CCAATACNC GGCCTCGGG AAGNGTCTC CTINGCCTTN 780  
 CCCANIGGEN TNCITGGGT NNGNCAAN CNACNNGG CCTCTCTCN C 831

## (2) INFORMATION FOR SEQ ID NO:376:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 802 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1286RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:376:

	GATCGCACCT ATAATGAAGA CCGGTTTTT TTTATGAGAA ATAGCAGCCC TCCAGGGGTT	60
10	ACTTATTAAG TAGCTACAGT AAGATTAGGT TATTCGTTTG CAAATTCATT GGTAGATCAA	120
	CTTGACACT TCAAATAATG CTTCGCTGCG ACCGTCATAA AACATGTTAT GCGCGGTGTT	180
	GACAACTACT CTGAAGCTAT AGTCAGGGTA GTGGGTGGCA TTAGCTGGAC ACACCTTATC	240
15	TTCACTGCCG ACCAAGACAT GCGCTGTGCA CCGCTGTGCG AGCAAAGGTG GCGCGTTAAT	300
	TAGGCTCTGC CAGCTAGAA GATACTCAGT GATGGATTTC GTGAAACTG CTACACCGTC	360
	GTAGAAGTGA TTTAGCTTCC TGTACTTGTT CCCATGTTG GAGAAAAAGA ACTTAATTCC	420
20	GGAGCTGTTT AACCTTCAT CTGGTGGAAA TTGGTCTTA TGAATTGAG AAGCATGATC	480
	AAGAAGGCGT TGAAGAATGT TAGTGAAAGG TTTAGATATG GCTGACGAT ATCCAACTTT	540
	GATTTGAGAG TTCTAGGTGG CCGCGCGCGC AATAGAATGA TCTTCTGCG TTCAATTGTT	600
25	GACCGCGTAT CCTGAAGGCT AATGCCAAGC CAAATGCACC CCATCATTCG CCCAAAACTC	660
	CCACGACAT TATTATGGTT GCGCGTAGA CCATGAATCT AAACCCCTTA TCACGACCC	720
	CCCCACAGG GTTACCATCG CCCATGTCCC TTCCCGACCC TGAGTCTNAC CCATCTNCC	780
30	CCCTATTTC CACATATCT CC	802

(2) INFORMATION FOR SEQ ID NO:377:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 835 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1286UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:377:

45	GATCTTCGCA GGCAGCGGT AGTCCACCG CGTCAGTCCC TCGCAGAAGC CCGCGCGGTG	60
	CACGTACAGC ACCACCGGT CGTCTGGTG CCGCTTGTG GCGCGGACA CATAACCGC	120
	GCGCGCAGTC CCGTCGCGG CCGCAGCGG CCGCGCGCG AGCTGGAACA GGTGCTATC	180
50	CTGCAGAAGC TAGTCTCTT CCAGCACTTC GCGCGCGGC TCGAAGGACC GCGCGCGGTG	240
	CCACCAAGGC ACGCAGTCC CCAGCAAGC CCGCAGCGG GCGCGCGCG CCGGCTCCG	300
	GTGCGCGCG GCGCTTACG CCAGCAGTCC CAGCAGGTG CCGCGCGCG CCGCGCGCAC	360
55	CACCGAGTAT ACCAGGCGG CCAGCGCTG CCGCAGCGG AACCATAGA ACTTCAGCAG	420

AAAGCGGAGT ACGCTCCACG TTTTGTITGG AGATCCCATG ATGCCGGCCC GAGGGACGTC 480  
 GACCCCCGCC ACCTGACGGG GCGGCTACTT ATACACCACA AGATTCTATA GAAAAGGAAT 540  
 5 GCGACCAACG ACGAACGGTG TATCGTITGG GAAAAAAGG AGTCCCCCAA CTAAAGCTTG 600  
 CTGCTGGCT ACGAGTTTGT GTTTCAGGTT TCTTCATAGC ATCCCAGTTG TTTTGTITGT 660  
 TTGCAAATC GCATATGAAC CATAAANAT CAAANNITGT ACAATTGCTG CCGACCGTTG 720  
 10 CCCCATCCNC CGGGGAAANA TCCAGAAATC GAGANAATTT CAGACGCGG GTTTGCCAAA 780  
 NCCCCGAAAC CCCAAANTCC CAACATTCTT GNCACATTTG ATTCTGNANC NNINCA 835

## (2) INFORMATION FOR SEQ ID NO:378:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 799 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1287RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:378:

GATCCCACTG GTATTAGGTG TCTGAACACG GCCAAATAAA ATACGCCAAA TGAAGGGCAT 60  
 30 TAATAATCTT TCATCAGTGT TGACAATAAC CCTTGACTCA TTCTGACCAA ATAACITTTGT 120  
 TACTTGTGCG TTGAATAACG TGTCATCTAA TAAGTCTTTC AGATTGTCCC TATATTTTAC 180  
 AGCTACTGGA TCTTGTATG CTAACAACGC ATCTAGGGCC AGTTTCTGCA CTTCAGGGT 240  
 35 TCGACTACCC AATAATCCA TCAACCTTTG GGGACATCT TOGGATTTGT AAATAGCTTT 300  
 GATATTTTGT AACTTGCCA ATAATTTCAA AATTAGATTC CTATCCGTCT CAGACCATGT 360  
 ATCCGCAGAG TGCCTGCTA ACTCACCCAG ATGGTCTTCA TCTTGGTTGG CATCGAATTG 420  
 40 ATCATTCGGT TTTAAGACAA AAGGTACAAT GAATCTGCTA TTTTGTCTCC GCGAGCTGIN 480  
 GCAGCGGAT TAATATCTTC AATGCTTGT TCTAATCATA CCGGATATCC GAGTGAACCG 540  
 CGANCCCTT TAAGGTTTTC CAACCAAGGA TTTTTCGAAA NCAACATNEN TTINGAACNT 600  
 45 TCCNAANCA AATAATINAT CCTAAAAAAT TINTGCCNA NTCAAAAAN TCCCNAGGG 660  
 GTNNAAAGAG TGCCCCCAA TTCAAAATNA GNGNTTTTIN GGGNTTTTNC NAAAAAAT 720  
 CCGNCCNAC CNGNNTTNA ANAATTTTIG GGAANCCAT TCCCCCCCCA AGGGGAAAAA 780  
 50 AGNGTGNCC CNATTTTNA 799

## (2) INFORMATION FOR SEQ ID NO:379:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 817 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1287UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:379:

GATCAGGTGG TGTGGCCGA TACCGTGAAG GAAATGGATG TCCTGCCCAT GCGGAGATA	60
GATTTCTCTG ACACAACGTC CTCTCTGAAG GCGCTGATGC GCGGAGAGGG CTCAATGGAG	120
AGGCACGTAC AGGGCCCGAA CACCGTCACA GACCCATGGG ACATGTCTTT GGAAGTGGGG	180
AGAAGATAAG CCGCTGACGA CGACCTGGAG CAACAGAGGT CGCTACTGGA CCTCAACTTT	240
GAACTCAGTG ACATGCAGAA CTCCAATCT TGGGTGAAG GGACGCACAA TTCCGAGAG	300
ATCAGTGCCA ATGTGCTTGC AGAGTGGCAA CGCCAGGAGC TGCCCGGGAA CGAGGGCATT	360
GAGGTGAAG AGGATCTTGA TTGGAACTTG GAATTCACGG AACCAGCAAT TGTAGTCCCT	420
TCAAGCGATT TTGAACAGA TAACAGCATA GAAGTGGGCC GGAGAGCAGT CCGCGAATGC	480
GGACCTTCAG GAACTGTGG ATTGTGGATT CGACTTGGAT ATTGCGAGGG TTGACATTGA	540
GGCTACAGCC GCGGAGCAGA TGCTGGCAGT TTGCATCTGA GCTTTCCGGA AGTATAGTAC	600
GTCTTCTCTG AACACTGTTC ACANCCAAA CAAGAAAGGC ACCTGGTAT CAATCTACA	660
TTCAACCCCA CCGGATTACT GAAAGGTGNT CTAAGACCCC CCGACANTG CTCCTGANT	720
ACCATCCCN NCCCATTCN NCCNAAAAC GGNNTGAC CCTTNAAT GATCCINCA	780
TTTTGNMGA CATCTGCTC NTTTCAACG AGNCCA	817

(2) INFORMATION FOR SEQ ID NO:380:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 787 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1289RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:380:

GATGGGATT GACCGTAATA TTTCAGCTTT TTGATGIGAA TTGCCAAGAG GACCAGGAT	60
TTGAATCTCG CTGACTCTGT TGTGAGTAAT TAGTACAAGA ACCTGTGGCC TGTACAATT	120
AAGCCCTGGG AATAGGACTT CAACTTCAGA AGCCCAAGAT CGTCAACGA TGATACAAGT	180
GCCTACCAAC ATTGACTTAA CATGAAAATT GATAGCATTT TTATACAAT GGAAGCAAAG	240

GACTAAGTCC TTCAAGTGGT CCGCAATGCA GCTGTGTAGC AGGTTTGGC ATATTCTCTG 300  
 AAGATGTCAA CCTTCCAAAA ATATTCTCTCA GAGCATTAAAT TATCATTACA CAAGCCCTTG 360  
 5 GTGTGAGACA GAATCTTGAG AGGTGCTGGC ATAAACTCA AAATCGCAGT GCTTGGATTA 420  
 TAGGGCTTAT ATACTGATTT AAGTGGTGGT GGTATCTAT TCAGGTTGT ATAAATTAAA 480  
 ATATCACAGT CGGTATATCT TTACACACTA ATTATAATCA CGTGATATTT GACTATTTAT 540  
 10 TACACCAAGA CACCTCGCTA TGAAAATAGC AACAGGCTGA TGGTATTAC ATCTGAAGAT 600  
 ATCGCCAACA TTAGAACACA CTACTGACAC AACGGCCAGC CATTGAGAC TATGGCTGGT 660  
 ACTACTGCAN TACTGTGATG CTATCTGAC NCCTGACCC TCATTGTGTC GGAAATCCNT 720  
 15 TTGATNGCA AAATCATNTC GNTGACCNCA ANTTCTACTN TATTAACCCC CCCACCGCCA 780  
 ACCTTTG 787

## (2) INFORMATION FOR SEQ ID NO:381:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 788 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1289UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:381:

GATCCAGGC TGCCCGAGGA TGACGGAAAG TTGCATGTTT TTTTCGGGC TACAGGCTCG 60  
 35 CTTCGGTAC TGAAGATTAA ATCGATGATC AAAAACTCG AAGAGATTTA TGGTTGGAC 120  
 CATATATCCA TTCAAGTCAT ATTAAC TCA GCGCTCGGC AATTCTTTGC TAATAAAAAC 180  
 CCCAAGAAGA AGAACCTTTA CGTGTCTAGC GAAACAACT CATTCTCAA CTCCGTGGCT 240  
 40 CACCAGGGGA AACTTGCAAC AGAACAACTC AGACGCATCC TACACTGGG TAAATAGCGT 300  
 CTCCAATACC CTTGCACTTG GGGGGCGAC ACCAAGCCA GCAGATCTTC TCCAGGGGC 360  
 AGCGCGCAA GGGGGGGCT CCGTCTAAG CCAGGGCCA GCTGGGGGA AGATTGAGCT 420  
 45 CCTCCACAC ATACAAGTCT GGACGGATCA AGACGAGTGG GAGTGTGGA AGCAAAGAC 480  
 AGATCCGTAC TGCATATTGA ATTACGAGG TGGGCGATAT CTTGTCTGC GCGCCACTTA 540  
 CCGAATACA CTTCAAATT GCGTGGGC TTGTTAAAC CCGCAACAT GTTCNTGGG 600  
 50 NNTGNAACCA NTTTTCAAT TCTNCNCCA NCGNGTTN GNGVNTNA ACCCCCCCCC 660  
 TACCCCCNA AAAANAANA NAAAAACCC GTTNTGTTG TTTCACCC CAAAAANAG 720  
 GGTNCCCCG GAAAACGAAC TGGGGGAGA GAGAGNANN AAATNANAN AATCCTTTTA 780  
 55 NCCNGGG 788

## (2) INFORMATION FOR SEQ ID NO:382:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 761 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1290RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:382:

GATCGCTAGA TGCCCAAGGAT GAGACTGTTT AGGTTAGGCA GGTGTTGTAT GCGCCGCCAG 60  
 AGGGAAACCC AATGACTTTG CATAGAACAA ACCCGCCATC ACCCATGTCT TCGCTGTAT 120  
 AGAGACTAAG GTATCTGACG ATCCCTTAGC GACTCTCTCC ACCGCTCGAC GAGGOCATTG 180  
 AGCTCTTAGC AACTGCACAA AACTACTCGA ACTCTGTTTC CAGACTTCTT TCTGTTTGTG 240  
 TTCAACTGCT TTAGCATGAA GTACCCCCCA GGCTATTTT CTTACCCGCC TGGTGTGTGT 300  
 CTATATACCC GGTGTATTT TTGATAAAAA ACTCAGCTCT TCTCTTAGG CAGAAATATA 360  
 TATOCAGTCC TTAGCGCAT GCGAAATCT GCTTTTAC CGCTGTTTCT CCCAGTCTTA 420  
 GCACTGGCAG AAAAAAGATG TATGGCGTAT AGGCGCTGGC CCGCGGAAA AAAAAAAAAA 480  
 ATAGAAAAT AGAAAAATAA AAAGACGTGG GCGGCCCCG GGCAGACGA AGAAAAATA 540  
 GCGGCCACC CTTCAAGCA GACGACAGGC GAGACATAAT AATCCACCA CCAAGGGAAG 600  
 AAGTCTGTG CAGGCTCCG GTCATAGC CTGOCATCT GTTCCATCC GCTTGAACC 660  
 CAGTATGCAT GTCAAGCATG TTCGAGCTC CGCTGCTTGG AGTCGAATCT CTCTCTACCC 720  
 AGCGAATCC CATACTTGC TTCACATACA TACCTTTCAT T 761

## (2) INFORMATION FOR SEQ ID NO:383:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 639 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1290UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:383:

GATCAGACAT GGTGTTTTC GGCCTCGCT CCTGTGGGT GGGTCACCG CAGTTCAC TG 60  
 GGCCAGCATC AGTTTGGTG GCAGCAGAAA CCTTAGGAA TGTAAGTTT TCTTGGAGG 120  
 AAGTGTATA GCTAAGGTT ATACTGCCAA CCGGACTGA GGAATCGGC TTGGGCAAG 180

GATGCTGGCA TAATGGTTAA ATGCCGCCCCG TCTTGAAACA CGGACCAAGG AGTCTAACGT 240  
 CTATGCCAGT GTTTGGGTGT AAAACCGSTA CGGTAATGA AAGTGAACGT AGGTGAGGCC 300  
 5 CTCTTTAGAG GTGCATCATC GACCGATCCT GATGTCTTCG GATGGATTIG AGTAAGAGCA 360  
 TAGCTGTTCG GACCCGAAAG ATGGTGAACAT ATGCCTGAAT AGGGTGAAGC CCNANGAAC 420  
 TCTGGTGGAG GCTCGTAGCG GTTCTGAAGT GCAAATCGAT CGTCGAATTT GGGTATAGGG 480  
 10 GCGAAAGACT AATCGAACCA TCTAGTAGCT GGTCTGCCG AAGTTCCCTC CAGATACAGA 540  
 ACTCCATCA TTTTATGAGT TAAACNAATG ATAAGTTACC GGGTTGAAAT GACCTGACTA 600  
 TCCCCACTTT AATAGTTAGA ATCCCTGTTC CTATTGAC 639

(2) INFORMATION FOR SEQ ID NO:384:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 813 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1291UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:384:

GATGCTGCAC GCGAAGAGCT CGAGCTGCG TCAAGACGGG CGCGGCTCTT TCCAGGGGGT 60  
 ACCCCAGGCC GTGGCAGTGA CACGGTACCA CTGCTGGCT GCACTGGGT CAAGTTTGC 120  
 GCGGAGCTG GAGGTGACGG CGCGACGGA GACAGGCGTG GTTATGGGCG TCGGCACCG 180  
 35 CAAGTACACC GTGGAGGGTG TGCAGTTCCA CCGGAGTTCG ATTCTGAGGG ACCACGGGCA 240  
 GCTAATGGTG CGCAACATGC TAGCGCTGGA AGGCGGTACG TGGGCTGAGA ACGACAAGCT 300  
 CCAGCTGCGG CGAGGCGCGG GCTCTGTGCT GAGCGAGATA TAGGCTCAAC GACAGGAGGA 360  
 40 CATGCCAGCG CAGATGGCTA TGCCGGGAAC TGGTATGGCG GACCTGGAGG CGAGCTTTTG 420  
 ATTGGGGGTT CTGCCGGGCG TGGTGGACTT CCATGAGCGG CTGGCGCGGG ACCCGCGCGG 480  
 CTGGCTGTGG TAGCCGAGAT AAAAGTGGT CTCCGTGCGG TGGCAATATT AGCGAGGCC 540  
 45 TTGGGNCAN AANANGCGT TNCNINTGC CGAAGGCGGA ATTTTCGGCC ATCTCGGTG 600  
 CTTTACCGAA CCACTGTTC TAAAGGGACC CGNAGANCN NAATTATTNC CCGACCCNOC 660  
 CTTTGANAAA AACNANACTG CCCAANACC GCGCGTTTG CTNCTTTANG ANATCTTTAT 720  
 50 TNCNNTTC AATNTTTGAA GCGGNTTNC GGCNACAAT TTCCCTTATT TINAAATTTT 780  
 NAACCACCCC CCCCAGACC NTTTTTTTTC CCC 813

(2) INFORMATION FOR SEQ ID NO:385:

(i) SEQUENCE CHARACTERISTICS:



(A) LENGTH: 773 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1292RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:385:

GATCCGTGTA TTTTITATTT ACATTATTGA ATTAAAAATA ATGATTTAAA TAAATATTTT	60
TTATAAAAAA TAATTAGTGC ATTGTTACAT GTTCATTAAA GAATGATTAT TATCAAAACC	120
ATCAACTAAT TGTATATAT TTATTAAATA TTAATTCAC TTAATTAAGA ATTAGGAAC	180
TTATCTATTA GTCGGGCTG TTCCCTTTT GATTATTAAC CTATCCCTA ATAATCTGAA	240
ATATTTAATT TTAGATTAAAT AATATATCTT GAGATTTAAT ATTTTAAATA AAATAAATAA	300
TTATTCCTTA AATAATATTA ATAACIATAC CATATATAAT TAAATTTTAA ATAATCATA	360
TAACATATGT TTCTAGAAA ACCAGCTATT TGCAAAATCAG ATTGACTTT CTCTACTTAC	420
CATTATTCAT CAGATAATAT TGCTACATTA ACGTGTCAA TCGTTTTTAT ATTTTATTAT	480
ATTTTAAATA TAATAAATAT ATATTTTAAT CATTTGATAA TAGTAAGATC ATCTGCTTTC	540
GGTTTAATTA ATATTAACCTA AATTAAATTT ATTTTAATTA ATTTTACATN GTTAAANATT	600
TAAATTAATT TTAAACCAN TTTTATTTIN AAATTTTGNC AAATTAATAC TGGGGGNCOC	660
CTTTCOAAGG GGCCTNNNN NATTTTTTINA AAAAAATAAA AAAGGGCINN ANAAACCTTT	720
TAAANITCC CCNGGGCCCC NNAANANINA AANATTINAC CCNAAGGTC CCN	773

(2) INFORMATION FOR SEQ ID NO:386:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 798 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1292UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:386:

GATCCAGTGA CTTAGTAGAA TGATAAAATT AATAAATATT ATTTATTAAAT ATTTGGTTAA	60
CAATATAAATT CAATAATTTA TTTAAATAAT GATTAAATAA TCTCAATATA AAATTATTAA	120
TATAATGAGA TATATATTTT TAAAAAGAAT ATATAATTAA ATAATCCCAA CCAAAATTTG	180
TGCCACGAGC TGCGGTAAGA CAAAGGGGGT TAGCGTTAAT CGTAATGGCT TAAAGGGTTC	240

GTAGAATGAT TATTTAAAT AATAATEAGA ATTAATAAAA ATAATTTAAG AATTATTCAA 300  
 GTAAGAGTGA AATAATAATT ATATGAATAA GACTTATAAA GTGAAAATTT AAATTATATA 360  
 5 TTAATTGACA TTGAGGAACG AAGGCTAAAG TAGCAAATCG GACTUGATAC CCGAGTAGTT 420  
 TTAGCAGTAA ACAATGAATA CCTATTTATT TTTTATTAAT TAAAGAATAA ATTAAATGAA 480  
 AATTAAAGTA TTCCOCTGA TGACTACGTT TGCAATAATA AAAATCAAAA CAATAGACGG 540  
 10 TTCCGACTTA AGCAGTGGAA CATGTTTTTT AATTCGATAA CCNCCANAA ACCTTACCAN 600  
 TTTTNGAATA TTTAATTATA ATAATTINAA ATTATTACGG NGTGCATATT NCTTCCCTC 660  
 CCGCCGCCNA GTTTTINAAT TATONINAAC GAACAAACNC CCATTTTTTT TTINANAAAA 720  
 15 ATTATTTATT TTTTGAATAT TNAAAAAAA TAAANATCCT TINICTTTT TAATGGNGA 780  
 GINTTTTTTT TINTCN 798

## (2) INFORMATION FOR SEQ ID NO:387:

- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 762 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDELNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1293RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:387:

GATCACCAG CAGCTGGTTC GCCTGGCAT AAGCGGCTT GGTCTGTGCC CACTGTCTC 60  
 CAAGACCAAG CTGCTGTGCC TGGACAACA GGTTGTGAG CTGACACCA GGAATTTCAT 120  
 35 GTTTGTACAC CTCTGGTTCG GGGCCTTGA GGTCCGCTC GAAGCATGAG TACAACAGTC 180  
 TCATCTCCG CCAGTATCG TCTAGTTCGA TCGCATGATC GGGTCTACA CCGTCCGGA 240  
 TATCCCAACC CAATGAGGCC TGCAAGCCG TAATGGAGGG CTGGGAGTT AAGCCAGACA 300  
 TCGAGTTGCT GCGAGCTCC ACAACATCG CCGCAGAGAT GCGCATTCG ACCATTGATG 360  
 CGACACCTGT GCTCCAGAA TCATGTGTAT GCACATGAAT TGGGAGTCT GGATACTTTG 420  
 40 CCGTATCGA GCAATCAGT AGCTTTGCTG CACCGGCTT CATGGTCCG GCCATATCTT 480  
 TAATACCCAA GATATGTGTG CCGCATGGCA ACAATCTTT CAGTCAATC AGTAGTAATC 540  
 AAGGTGTAC TTCTTGCTG CTGTAGCATA TCACCTGAGT TACAGATAGT GCTCAACAC 600  
 CCTCCGCTT TCTTACGGG TNAACCCA CTTCATGTT CTAGTCTCA CCNTCNAN 660  
 50 CTCTGAAATN TCANNCATC CCTGCTGTT TGACAAATGT CATCCNTTT CCGNAAAGA 720  
 ATTAACACC GTGGCCCAA CNOCTGAAN GATTTTGCCC NG 762

## (2) INFORMATION FOR SEQ ID NO:388:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 805 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1293UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:388:

15	GATCTTACAT CTGACAACAA TACGCTGGGG GCAGATGAGC TGCATTGATG GAAATTTTAA	60
	CACAGCTGGG GCAACAGCT ACAAGGATA TATAACTCA ATGCAGGCGG CTCTTTACTG	120
	ACACAGTCCA TCAGCATCAG CACCACCCC AAAAATGAAG ACTACACACA TCCTATCCCT	180
20	AGCAACACTT GCGGCTGGG CAGCTGTCA GCGGCACT GTTCAGGCCA CGGACCTCGC	240
	CGCAGCGCA AACGTCCCC AGAAAGCTGT TCTGGCTTC TTCCAAGTGT ACAATGTGGG	300
	CGATGTGGAG CTGCTCCAG TGGACGAGG GGCACACTCC GGGATCCTTT TCGTGAACCG	360
25	CACACTAGCG GAGGTGGACT ACTCCTCCGA GCATGTGGTT CAAAAATGGT TCCGTCTGTC	420
	TTCTCACCAT GGGCAAAGTA TGTAAAGCCG GACCAGAGAC AGTTTGGTGT GAGATATGTA	480
	AGTTTACTTG GTGTCTACA CCATGCATTA TGACACGGGC TTACGTACCT GCTTCTATAA	540
30	GCTAGTTTAA ATGTTTCTA TCGGTATTAT ATGGTTTACC CGGCGGATA GTTGGCAGAG	600
	GCTGCTGINT TAAGGCCNAA CTTTATTCCT AANANGSTGG ATTACCCGGT NGAAANAATG	660
	AATCTGAATT GCGAAATTC CGCTGGNCT ATTANCTCCC CUNCCGGTCC NAATAAATGG	720
35	AANATGGTGG GGTTAATAC AAAANGNCC GVTGCGGCA ATGNACTGGA TTAATTTCAA	780
	AAACCTCCAA NTACCCCCAA NTGGN	805

(2) INFORMATION FOR SEQ ID NO:389:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 764 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1294RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:389:

40	GATCCGAAT GTGCTCAAG CTCGCTGCT TTGGCTGGC CTCCTGTTC TCTGTGAAT	60
55	CGTTCTGGT GGTCTCTTC TCCATGTG ACCTTGGGT CAGGCTTTC AGCTGGTACA	120
	CCTGAGAAG CTTGAGTTA TGAATGCAA ATUGSTTTAG CATCTGACC ATATTCGCTG	180

CGCCACCTGC CTGCCCCCTT GGCCTTACAT CCGGAGTCCA ACTTCAACGT AATGCTATAG 240  
 AAAACGCCAT TGGCCTCGCC GTCTTATCAC GTGACTGTTT ATTGAGCTCG ACAGCTACTC 300  
 GACTAGCACT GCTGCTGCTT TAACTGGGCT ATACACTTTA TATCGTTACA TTACTTTCTC 360  
 CGTGGTCCGC GGATGGGTGG TGGTGGCTTG TGTGCAGACT CACTCTTGAA CAGAGGAGCG 420  
 TTCTTAAACA TGCTGGTAC GACAAAGAAC CTTACGTCGG AGCCTCCGCA CGAATACATG 480  
 GTCCATATGT GTCACCTGGC CGTCCCGTGC CGTCGCTGTC ACGTCTCTTA GCTGGCAGTC 540  
 ATGTGTGCTT CGCTGCCAC CAACTTGGCC CGATAGTTTC GCGGTCGTT ACTCCAGCAN 600  
 ACCGTGTCGC TTNGGCTTCC TTCACACTTA CAGGAATCCG GAATGCCAG ATCTACTTTT 660  
 TTGGTTTGGC CGTTTCCNIT CCGACANAA ANGGTTTAT ATTTTGGGCG AAAAGNTTAA 720  
 ATTTTACATT TTCTAAACAA CATANGTTC NTTTTACNN AAC 764

## (2) INFORMATION FOR SEQ ID NO:390:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 800 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1294UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:390:

GATCTGGAAC TCCAAGTTC TGATGTCTG CTTACGCTTC TCTGCTGCT CATGAATCGA 60  
 CTGCTGCTTC CACCGAATGA AGGACCGCTT GTCCACATTA GGATGTACCT CGATGTCCGA 120  
 GTCACTCGAG ATTCTATCT TGTCCACTT TGAGTAATCG ATTGCCATTC CACTACCTTG 180  
 TTGTGTTCTG GCTTCACTAC TGTGTCTCT AGATCTCTG GATCCACCA TAACTGATAT 240  
 CAAAGATTCA TATATGAAA CGTCCAATA AATAATGTTA CACATAAGGA AGGACCAAGG 300  
 CAACGCTTGC CCAGTTCTAG CAACTTCTGT GTGTCACTCT CAAGATAGA AGTCTGGTCT 360  
 CGAGATGTTG AGACCGTACT CCGCCACAGC GCTGCTGAGG TGTGTGACGG TCAAGGTGAC 420  
 CTTGTTCGCA TTGCTCTTTT CGTTTGTGTG GTGCTGCTGC TGGCTGATCT GCTGTGTGCC 480  
 GGGCTGCTGC TGACCGAGCA TCAGTTGTGG GGGGGGGGCC TGGCGTTGT TGGAGTTATG 540  
 GACCGGAATG AGGAGCGGAT ACGGAATACT CGTAGCGCTT CCGCCGCNAT GTGCTAAGC 600  
 AACTCTGGTT GCCAACGCGA AGAAGGCTT GACCGANAT CNGTGCACN CGAACCTTCC 660  
 TGGTCANITA TTATCCATCA CACNTCCGA AAAAGGGGGG GGTCTCTCT AAGTCNAAAA 720  
 CACTTGANGT CTGTCTTGC GTTGAATCGG ATTTCCAAA CTCTTTTCT NCGGTTTGCC 780  
 CCNGCGGCC CCNGGGGGA 800

## (2) INFORMATION FOR SEQ ID NO:391:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1295RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:391:

GATCTTTTCT TCAAAATGGG ACCAGGTGCT TAAGTCATCC TGATCTGCA CAATCAGTC 60  
 CATATTGGCG GAGATCAGTG CCGGTTTGGC ACCAGAATCG CTGCCCGGCC AGGTGACTAG 120  
 CAATCCGAGC TGGTTGACAG TTTCACCTT TAGCTTACAC CAAACCAGAG GAAAGTCCCG 180  
 CGACAGCTGC TGGTGCAACC GTTTGAACTG CTTGTATGTC TCCGIGTGG ACTTCACCGC 240  
 TGTGCAGCAG TCCGCTGCAT CCACCAACCA TGCCGAGGGG ATCTGCACTG CACGCTGTAG 300  
 CTTCTGACA GTGAGATTGC TGAGCGTGA GTTGTGCAGA ATTTGCTGGA GGTGGTCTCC 360  
 AAAGCCCCC TGAGGTTTGG ACACGTCCA GCACGATGGC AGTGAGGCC CAGTCACCTC 420  
 CGAAGAAACA ACAGCACTCC GCGCTGTCTG AGCAGAAAAG CAGGCCAGCA ACCCCAGCGC 480  
 CGTGCAAAG GATATCGTTC CCCCRAAGG CCAAGCTGCA AACATCAATC TGGTGGTCAG 540  
 CGACTGCTTT TCCCAAGAGA TCCGTGGGGA CCATGGGACA GATGGCGGCC TTAATATAAG 600  
 CCCCCTCTCG CCAGCATGAC TTCTGCCAAC TCCGAACAT TCTAAATGGC CAGCTGCTGC 660  
 TTTGATGGTA CTTNCCGNG CTNGCGCAA AATTNATATA CCATAATCC CTTCTAAAT 720  
 ATNCTTACAT ACCACGCCCC AAAGCGCTCC CGNAGGNCN CCGAGCCCC CACTTTNCC 780  
 NNAAGNANCC GNTGNG 796

## (2) INFORMATION FOR SEQ ID NO:392:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 808 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1295UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:392:

GATCAACTTC AGTTCTGGC GTTTGTGCA TGGAGGCCG CCAAGGCAG ATAGCTTCTC 60

AACTGTGGGG GTACCCCTGCA CGGCTCCAC GACCGCTGTG CAGTGGAAAC GCTUGTAAIT 120  
 GTTCTTGGTG TAGTGGTTGA AGTACTCCAA AGACCAACG AATCGAGGC CTGGAGGAT 180  
 5 ATAGAAAACC AGCGTCCCGT ACCTACCGAT TGGCATGGIT GAACCAAGGA TTCCACTGOC 240  
 GTAAGTACTC AATTATTGAG TGCTAGCAAG CTGATGTTGA TTGTGTGATA TCAACGGTAA 300  
 TCGTCTGTTA AGGAACCTTT TCAAGAAACG CAAAAGAAAT GCGTGGGTAG GTCGAGCAGG 360  
 10 TGACAACCTC ATATTACTCA TAACAGTTAT CTATCTAAGA AGCGGCACTA TCGATATACT 420  
 ATCAGCTTCG TATACACATA TATATCGGAG GTTTATAATC GCAAGTTAGC TATAATTGCC 480  
 ATCGAGGTGT AATACATCGA AGATTGTCTA CGAACTACT CTGTCAACAA CACATCAGCG 540  
 15 TATGAACAAT AACAGCAATA TTATGACAGG CAATTGCATA AAAGTATTCA AAGAGGGTTA 600  
 AACAGTTAAA TTCCGTAAAG GTTCAGNGAN TATTCCCTGA CACCCCATAC CGAATCGGCC 660  
 TGACCAATT GTTCACATGT TCANAGATTC TCCGGGACTT CATATGNACC ATGTTGCCGC 720  
 20 CCCNAACTCN CATTATGTTA ATGCTGTGTT TCGTACTCC CCGGCTGTGC CCAAATGCCA 780  
 TCCCAGGGTG ANAGGTGCTC GTGATCTC 808

## (2) INFORMATION FOR SEQ ID NO:393:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 779 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1296RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:393:

GATCATTTGT GCGTTTGGAG GTCACGCCAC GGAAGTGGAC ATGTAAGTGA TGAGCTTGA 60  
 40 CCGGCAGCTC TTCAATTGGT CCGCACGCAA GAAGCTTGAG TTCCCGAGCT CTCGCGGGA 120  
 GAGTTGGGGT TACCTTGGGT ATTACAGCGG ATACAAATTC GAGCGCATGG CGCTCTGGA 180  
 CCGTCCGGTG GCGGAACTC CCGCGAGGT TCTGGAGAGC CCGGCAAC AGGTGTTCCG 240  
 45 CAAGGTCCG CAATACAGGA CTGTGATGAG AACCGGCTC GGGAGCACA AGCTGGTGCT 300  
 CGAGCTGAG ATGACGGA TCATTGACTT CCGGAGCTT ACGGGGACA ACGTAAGCA 360  
 CTACGTGGAG CTGAAGGTGT GTCAGAAGAA CCGGAACTC TCAGAGAAAC TTTTCTCTC 420  
 50 TTGGCTGCAA TGCTTTCTGG TGGCATAAA CAGGGTTATT ATTGGATTCC GGGATGAGAA 480  
 ATTCTCTCTG AAGAGCGTGG AGGAGTTTCA TACCTCAGAG ATCCACACC TGTTTAAAG 540  
 GCACGGAATA TTGCATGTAT GTGTGGAGC CCATAGATTG TATGGTCTC CTTACAAAT 600  
 55 GCTAINTGAC TCCCCCGGGC CCTGAAANA NITCAACTGT TACAGTCTCC TGCNNCATGG 660

TGCTTACTTT TGCCCCACTG CCCAACAAAA ACCCCCAATG GGANAAATN TCCCTNGTTG 720  
 GTCCCAATT GGNNGNCCC CCANATANAA AATTCGNAT TATCCCTTG TTCTCTAN 779

(2) INFORMATION FOR SEQ ID NO:394:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 815 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1296UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:394:

GATGCTACCG TTGCTGCTG CGTTTACCG ATATGGATCG GTTGTTCGA GTTGGGAGA 60  
 GCACGGTGT CGGTGTCTT GCGACCTCT CGACATGCA ATACCTACAG CGCTGTCTC 120  
 AGGACATGGA GATGAGAAC AACTACGACA ACAGCCACGC AGACGGCGCG GAAGCGCTCA 180  
 AGCCGAGCTA TATTTTIGAG TACCTTGCTT CGCTCATGTA CCAGCCGCGC TCAAAGCTGA 240  
 ACCCGCTCTG GAAGCCATC ATCTGTCGCG GGTGAGGA CGGCCAGGC TTCTTGCGTT 300  
 ATGTGGACT CAAGGCGTC AAGTACTCG CCCCAAGCTT GGTACTGCG TTGGGCGCC 360  
 ATATGGCAT TCTCTCATG CTAAGTTCG CAGATGCCA AAAAGACTCG CCGCGTCCA 420  
 CCTCTCAAT GCGGAGGGA CTATCTGGA GTCCATGAAG GTGTATCTT ACCCGATGC 480  
 GCGTAGTTC CGTGCTTCT CGCTTGCCAT CATGACAAAT GATGCCGCTG TTCAGCATGG 540  
 AGCAACTGGA AGTGGAAAC ATGACCTGG GTTTGCCCCA AGGATATTC GGGTATGGC 600  
 NCCCCAATN TTGAATAC CNGGGCGCA ACCCGCACG CTGTTTACTA TCTGTTCGC 660  
 GGTGTGNC CAACCGCTG GATATCCAT ACNTTCAAAA NGNTAATCA TCTGCCCTGA 720  
 ACCCGCTGT TTTTNGAN ACCTTNCCT CTTTTCNGA TTTCCCGAT TGNCAAAAC 780  
 CCTTTGAAA AACATTNCC NTGGNAAT CGATG 815

(2) INFORMATION FOR SEQ ID NO:395:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 766 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1297RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:395:

GATCTCTCTG ACCGTGGTGA CCTTGCCTGC CTTCACAAGA CGGCCCAACT TGGTCACTGG 60  
 CACCGAGCCC TTCTCTCTGA CCTCTCTTCT GCCCTTGGCG CCGTGACGGC CCTTGTTTCT 120  
 5 GCGCGCGAAG CCGCTCTTTC TTTGTCTCTG AGCTGACATC TTGCTATCGT CGGAATGGAA 180  
 CACCGAAAGC TGGGGGACTA ACTTTGGATC GACCTGCTG ATGTAGTTAC GATACAGCTC 240  
 CGGCGGGGCG CTTCGGTGGT GAAAACCTGC CCACGGTCTG CGTCACCAGA AAGGAGGTCT 300  
 10 GGGTGGTACC GCTGTTTCCG GCCTCAAGAC GTGTCTGGGT TTCACACTGA AACCCACACA 360  
 TCAGACAAAC GCAGTCCCGG ACGCTCGAA AGCAAAACCC GCGTGAAGGA GCAACGGGA 420  
 ACGTGGGCG TCGTGGCGA ATCTGTCAA AACACGGGT CACAAAGGA TTGGGGCTG 480  
 15 CCGCAGGACT GCTACGGGGG CATTTGGCCC GCGGCGAGCC CCGAGCAATG GAGCAACCC 540  
 CTTCGGGAGG TAGGGCTCAC ACTGGGTAT AAAGCGGGC AGAGGGTGG AACGAGACG 600  
 TGACACACAG GAGAGGACAG ATGTGGACN NCAAAATGAC AATCTATCA ANAGNGGT 660  
 20 CCGGGCAAA CTATCAANAG NITCGAAGTT CCAAACTGNC CAGATCAAAA GGGCCCAAG 720  
 GGAAAAAACT TCCCCCCAC GACCTTTGN CATTTTAAAC CCGNG 766

## (2) INFORMATION FOR SEQ ID NO:396:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 795 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAGL297UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:396:

GATCCAAAA CAATGAAGT TTTACAATGT GGAAGCGTG ACACAAGTGA ATGGCGTCA 60  
 40 GGACCGCTAG GAAGGAAGTC TATGTGCAAT GCATGGGTA TTGGTACAT GAAATTAAAG 120  
 CAGCGTTTG GGGAGGAGGA TGCTGGGTG ATTATGGAAT ACCGGAGATT AACTAATAGG 180  
 CACGATGATC GCAGGGTCC CAAGAAATTT GAGGTCCAT TGCTGAGGT CGAAAAAGTG 240  
 45 AAGAGAGCCA TAAGAGCTG TGTGTGGAG TATTTGAATG ATGTTGAAAT CCGGTTAAA 300  
 ACGAGGAGGC GGGGTTATT ACATAAAGC AAGCCGGCA GTGGTTAAA AACAGAGATG 360  
 AAAACCCCTG CCGCATGAAG CACTGGAAG ATGAAACAG TTGTGAGCC GGAAGGACAA 420  
 50 TACCGGGG TAGGAAGTA GAGACTATGC TGUGCATGT AAGGAAGTA CTTTTATTTA 480  
 TCTACATAA CTAGGGTCT TTTGACCTGN TACCTTTGTA TTATCTTTG AANAAGTAA 540  
 CCCCCNCTT TAAAAAAT TTTNNNTGN AATAAATCC CTTTAAAGA ACCCCCCCN 600  
 55 NAANCAAAAC CTIVINCCCT TNGCCCAAC CCACCCAGAA ATTTTCCNC CNTTNOGAN 660



ACANNGTIN CGAGATTCCC CCNTTINCC CNAAAAAANC TCCCCCOGAN TMTNTNCCAN 720  
 5 AGNGCCCTTT TNCNCTCCCC NCCNANAATC CCAAAATTAG AAGGGGTMTT CNOCCNGCT 780  
 CCCCAGATC CAAAA 795

## (2) INFORMATION FOR SEQ ID NO:397:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 601 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1298UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:397:

GATCTTCTTA CTGGACTGGC TCTAGAAGA TAAAGATTA TGGCTAAGTC AACTGCGGAA 60  
 CTGTGGGGCC GCCTTGAGG AAGCGCAGGT GGCACCCCTT CCAGGTGGCG CTGTGGTGST 120  
 25 GGTCCTCAAC CCGAGTCACG TGACACAAC GGAGCGAAGC ACGATGGTTT GGAACCTCCG 180  
 CCGTCTGGAC CTGTACACC AGACACTGG AGCTGCATGC CTCAACACCG GCTGGGGCT 240  
 AGTTACACTT GATCCTAATA CTGGGGGGA AGAGTCATG CACATATGTG CGCTGCTTGC 300  
 30 GGGCTGGCT ACATCCCGTC CCGTCGGAT GCTAAGGCTG CAAAGTCTAT TCATCCCCCA 360  
 CCGTGCAGAT TCATCGGCA AGATCTGCAC CATCGGCCC GAGTCCCTG TTGCTAAGG 420  
 TGTTCGACAA CGATTTTGT GAGCTOGACA TTGAGGGCG CAATTGCTCC AGACTTACT 480  
 35 CCAAGAACAC TTGTGCCATC TGACCACCCC ATGGCTAACA GACCTACCA CCCCCCTTCN 540  
 GAAGCAACCG CTGTGATTC NATCTCNAG GTNCTCCCT ACCTATACCG CTCTTGTCAN 600  
 A 601

## (2) INFORMATION FOR SEQ ID NO:398:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1299RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:398:

GATCTCCAC ATTGAGACCG TAGCAGCCCA CATATTCGCC TTGAACGCC TTAAACCGCG 60

CCATTGCTCC CATAGAGCTT TCAGATTTC TGTIAGGCTC CAACTCAACG TCATACTGGA 120  
 GTTTAAATCG AGTGGGTGCT GTTGATATCC AACTTGGAGG CTTTCTTTTT GTCTCTGTAT 180  
 5 CGCTTGAATA GCGGCCAGG TCCGTGGCG AAAATOCATA TATATOCATA TTGGCCACCC 240  
 AGCTTGTAC ACATAGAGGC AATAGTGCCA GTAATGCTC GAGCCGAAAC CATGCAGCTC 300  
 CCGCGGAGG AGGCGCCCG CAGCGTCGG TTCCATAGAC GCGAAGCCCG GCGAGTGGG 360  
 10 CGCAGCTCA GCGGCAGTT CTTCCCTGTC ACGGTATGTC CCGAGCCGC GGTGCGACA 420  
 CCCAGATACT AACACAGCAC AGACCTGTA TCAGCTGATT GTCCAACCG CTTACTATTT 480  
 CACGTTTCTG GCGAATGTG TAGTGACGC GTTGGGCGAG GCGCGGCGAG TGGCCATAGC 540  
 15 AGTGGGTTT TCGATGTGA CCGTGGGCT GGGCAITCCC GCGCGGCTG CCATTGTGTC 600  
 TCGCGACGC GGTGTGGCAG GGTGTCTTG TGGTGGGT GTGCTGGGC AACTAOCAC 660  
 TCGAGTACAT GGAGCCTAC ATTGGAGCC TCTGTGAC GCGAGGGGG GAGTCTGTT 720  
 20 TTGCGGATG GGTCCCGGC GTGGGGGT TCC 753

## (2) INFORMATION FOR SEQ ID NO:399:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 751 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1299UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:399:

ACGCTTTTGG TTTTGGGCT GATGGTGGT GGTGTATAG ACGATGTGAT CTCGGCTGC 60  
 AATTGTAAGC CTTCTCTCC GGAGATATCC CGCAGGAGA AGTGTCTAA ATTAAACATT 120  
 ACGTTCATGT AATCAGAGG CACCTTTTCA AAGACACAGA CGATCATGCC ATTCTTACGC 180  
 40 TTGCCCCACA TGGAGGCCA AATGAATTTC TGTGTATGC AGGATGCTGA CGATGCAGCT 240  
 GAAGCAGGAG ACGACAGCGA TGTGAGGCT GGTGTATGA CGCTACTAT TTCACTGTG 300  
 AATACTGTIT CTGGCCCTC TGTAGACATA ATCTGTGTA GGACAAAGCT CCTGCTGTG 360  
 45 GTGTGTATCA GGTCAAGTAA AGTAAGGCGC TTAAATGCCA ATTTGGAGAT ACCGAGATT 420  
 AAGCATGCCN AATGTTAGC CCGCTAAAC TGCCATGGT GATGCTGGA ACAGGTAAAT 480  
 ATGGCTGAG GTGCTGTGTA CTTACCTGAT ATAAAGTAT GCAGTATCG GCGGCTTGC 540  
 50 TACGTTCTGC TGTAGTCTAT CGATCCTG ATAGATGTA GTTCATGGT AAATGGTTG 600  
 AGATAATTTT CGTCTGGA GCGCTGATA GTAGTTCTG TGTGAATAT TCATGAAATG 660  
 GTTGGCTAA GCTTCAAGC AGCTCTCTT TTAGTCTTG CTCATTACTG ACTTCTTGC 720  
 55

CAGGATCTAC GCCATCCGCG TTGGTGCTGA C

751

## (2) INFORMATION FOR SEQ ID NO:400:

5

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 777 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

10

- (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1300RP

15

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:400:

GAATCTCTTG CGCGGTGCAC AAATGAAGCA GAAACAGGCA TTCACGAAT TGAAGAGGCC	60
TCAACTGCGG CCGATGCTA CAGGGGAGT GGGAGACAT CCTTCTTTTG GTGGGTATGA	120
GGATACCTAA ATAAGCACAT ACAAACGTT AAATATGCAT AAGGAGATAT ATGGGAAAGT	180
TAAAGTGTTT TTAGTGGGCC TGGGCACAG TTGGGTGTTT CAGCGATAAT GGGAGACGAG	240
CCCGGCAGGT GATCAGATAC GGTTGTAGTG GCGMTACGG CTTGCGGACG AATCTACGGG	300
GTATGGTGGC TGACGGTGGG CCGGGGGCGT CTTAGGCTGA GTTCCGACA GCGGTTCCTC	360
GTACTGGTGT AGTCTCTGCT CGTGACAGC CCCTCGTTTG CGTAGCGGC CCGACTGGC	420
CCCGGCTTC TGGGCTGGA GATGGTAGA CTGGTGGTG CTGCTGAAA AGCCCTTCTT	480
GCGCTGGCTG TAGTACTGCT CCTTGGGCTA GTACGGGGG GCTCGGGG TTACTACGGG	540
CTGGTATACC ACTTGTGGG CCGAGCATAT ACTTGTGCAC GCTGCTCTC CTGGGCGGG	600
CCGCTGGGG TCGGCTCTAT AGCAGCAGCA CGGCAGCAC AAGAGTGGCA GATTCNCTC	660
ACCCCCCAT AAACNCGAN TTACACCCC TATCNATAC CCAATTGAG CTACNCATCC	720
CNCTATACC CATCNITGCA CNGGTACCT ACTTTTCCN AANIGACCC CACNTTC	777

40

## (2) INFORMATION FOR SEQ ID NO:401:

45

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 812 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

50

- (ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1300UP

55

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:401:

GATGAGGAG TTCCACTGG AGGTGGCGG CTACATGAG CTGCTGGCG AGATAGACC	60
CAAGTGGTG CACACGGTG CCGAGCTTAA CGGCAGATA GGGGCTTCC TGGCTGGCTC	120

GGGCAGGCG GGAAGCCCGC AGCTGCAGAC CATCAACCGG CTCTTCCAGG ACGTGATGCC 180  
 GTGCTGGAG GAGAAGATGC ACGTCTGCTC CATTTGGCTC GAGAAGCTCG ACCGGCTCGT 240  
 5 CCGCGCGCTC GAGCTCGGCT ACGAGGTGCG GCTCAAGAAC CAGGAGATCC CCGACAAGCT 300  
 GCGCTGGGC AAGGACAACC ACCCTGCCAT GCACCTGCAC CAGGAGCTTA TGAAGAAGAT 360  
 CGAGTCCAAG CAGCAGAGCA AGTGCAGCA GGCGCTGCGC TCCGAGTCCC GCGCGAGGC 420  
 10 GATGGGGGCC AAGAAAATGC AAGTGAACC GCGGGGCGCG CGCTGCTCT CAAAGGCCCC 480  
 CGCTCCCGCT GCGCCCGCG CGCCCTTTCG CGGCCAAGCG CCGCGGCAAA CTCTCCCGCC 540  
 CGCCCGCGCG GCNAGCGCAA GAAGCCAGG AACAANTACT CCGCCCGCCC CCNAAACAAC 600  
 15 AATTTGGGA AGGCTCTTA CTGCTACTGC AACCATTGNC CCTACGGGAA AATGTGGT 660  
 GCGAANGGA AAAATGCCNC TCNATGGTCC CTCCCTGGA TCACTCNAAA CCTTACCGAN 720  
 GGGAAATGTT CTGCAANAAT GCAAAAAAAC CCTACATAGA GNCGGTTAC TANNTCGCC 780  
 20 CCNCCCTNCN TGCCCTNCNA TGGGTTCNC NT 812

## (2) INFORMATION FOR SEQ ID NO:402:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 786 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1301RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:402:

GATCCGGAG ATTGATGCTG GACCGGCCAC AGGCAATTAC TATAACAACA TCCTGGCGTG 60  
 TTAAAGGACC TAATCAGGC TCAAGTATTT CAGGATGATA TCTAGATGA AGAGCTGGCG 120  
 40 CACAGCTGG TTGGTTTACA ATATTGCTCT CTTCGCAAA ATTTAAACAT GTCTGTACTA 180  
 CAGCGAGCTG GTCAAGCACA ACAGATTTTG TCCTGTATTT TTGGGGTTAA CTCAGAGTAA 240  
 GATCCGTCAC GAAAGATGTG CATAAAGAAG TAGCAAGGCT TTTAGGATTC ATGAAACGT 300  
 45 TCCTGCCAG CAGCAAAGAT CTGTGCAAAA CCTCGCACC CTCTGTTCCT ACTGCTACAA 360  
 CAGGGATAGA GTCTGCCAAA CCATGTTTCT CCAGCCATA TACAATCCCA TTATATAACC 420  
 CCGCGCACG TACGCTGAG AGGATACCTT TCAGGCTCTC CAATTCACG CCTTGGAGAT 480  
 50 GCAGTGTCT TACTACTTCA TCTACCATG TTGCATGCC TTCCAGATG AGTGGTGTCT 540  
 GAATGGATGT GCATATATCG GAGGACTTT TTCTAATTC CATTCGCCAT CAACTCCGA 600  
 CCGTAAGTGA TCATGCTCT CTTCATATC ACTTCCCAT GANATCATAT CNGCCCCCGT 660  
 55 TGANCGGTTC CGCTCTACCT CCNCGGCCAA TTMTTCNGN CTTACNCGG CAGGTINTCT 720

NITNNGTGA CCGGTGGTGC TGCACCCNTG CNTGCNCGA CTCCCNAAAC NITTGNTGC 780  
GNGAAG 786

(2) INFORMATION FOR SEQ ID NO:403:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 782 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1301UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:403:

GATCATCTGC GTGGGATACT GGCAAAAAAT GAGAGACAGC ATGATGAAA TATAGTTAAT 60  
AAGATATTGC ATGATATAAG CACAGGGGGG TTGTGTGAA GAGGAAAGGG TGCACTTGAT 120  
CTGGAAATGA GTGAAATGA AGACCAAGAG TTACAACAGT TTAGACAGAA AAGACGAGAA 180  
CTTTTGAAAC AAAAGATATT GGAAATGGT GATACTAGCA AGCTGTATC TAACCCCAAG 240  
TCATAGGCT TTTTTCAGAC GATGGTGAC GATGTACTG AAGCATCATT TGAAATACA 300  
TTTGATGCCA ATATAGATGA AAAACAGAT CCATCTGCTG CAGGTGGAA AATTGTCATA 360  
TCAGACAAT TTGTAAAGGA AACCTGTCA TTCTGTGGA GCAAGAGTG GACTCAGAA 420  
ATCCCTGCAG AACTAAATC TATTTCATC AGCAGTTG AACGTGAAGA AATTCAAGAC 480  
TTCATACATT GAAGCAAAAT AGTAACATTA ACATTTGAAA GGAGTCTAGA CTCTCTGCTC 540  
AGATGGCTGA CTCAGCAGTG AGATAGAGT GATTACGCT TTCTTTANAT ANATTCCNEN 600  
GGCGNAAAT TTTTATATGA ACTACTTCAC AANANTTTTA AAGTTGGCCC CAGGGGGGNN 660  
ATCTTAAGGG AATAAANATN GCGTCAAGC CCAATACITT TNINGGAAN NNINGNGTC 720  
CCCCNAAAG GATTAAATT CNACCAACTT NCCNCCANN ACCCCCCCC TINTTTTNG 780  
NG 782

(2) INFORMATION FOR SEQ ID NO:404:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 785 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1302RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:404:

5 GATCGAAGAG CTCTCTGCTG ACTTCGAACG GCACAAGGTA CCCAAGCTCC TGTAAAGAGT 60  
 TATGAAACTC CGTAGCGGAA AGCGTGAACG AACCGTTAAT ATCATTGTCC ACATATATCA 120  
 TCGGCCACTT CTTCACGCGC TTGTATAACG AAGTAAACTC AGACAAGTTT ACGGTACCAA 180  
 AGCGCGTGC GCCAACAGG CTAATTAGCG CGTCCACCGA ACTCATGCAG AACTCGAAT 240  
 10 TGTATCATT CTGTAGCAGA TCTGTAGCT CCTCTGCTGT GAGACGCTCC ATCTTCGGGA 300  
 CGTGGTATT CATGAATAAT TTCTTTCTG TTATAGCATC GGGTCTTCA TTAGGAACCG 360  
 TGGCGGCTT GGCTTGGTA TGGTTGGGT GAGCTGCTG AGCTGGCTGC GGCTTGCAG 420  
 15 GCAAATTATA GCTCTGTGCG CTCGTGGTA TTGCTTCCG GTGGCCCGC AGGCCAGGC 480  
 GGCTGTGGA ACGCGAGGAG GATTTCCCTG AAGCTGCCA ACGCATGCG CAGGCAACTA 540  
 CTATGTGTAC AAAAATTGCC GTGTCCTGC AAAACCTTTG GTCTGTACAG AACCCANCC 600  
 20 ATGCCCCATG GAAAGGNNIG GNTTTTGGC CCAAATTAA CCGTGGANAA NTGGGNAATT 660  
 TTGGCCATN TTTCCTAAT AAAAANGNG GGTNNAACT GGNAGGNGC CCATNNGG 720  
 25 GGNAAANTC CGGCGCTTT TMTTTCAT AANGGNCNC NTGANNCC GCGCCNNNC 780  
 CCCAC 785

## (2) INFORMATION FOR SEQ ID NO:405:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 803 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1302UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:405:

40 GATCAACAAC ATACTTCTAA AGACATCAAT ATACGCGCGC ATGTCTCCGG ATGAAAAACA 60  
 TGAATTGGTT GAGAGGTTGC AGTCCATTGG ATACCAGGTT GGCTTCTGCG GCGATGGTGC 120  
 45 GAATGACTGT GGTGCGCTTA AAGCGGCGA CATTTGGTATA TCTCTATCCG AAGCGAGGC 180  
 ATCTGTGCT GCGCCATTTA CATCCGCTT GTTTGAAATC AGCTGTGTTT TGGACGTAAT 240  
 GAAAGAAGGC CGTCCCGGT TGTCACTC CTTCGCTGT TTCCAATACA TGAGCTTATA 300  
 50 TTCTGCCACA CAGTTTGTTA CAATATTGAT CTGTACAGC CGTGGATCTA ACTTAGGGGA 360  
 CTTCAGTTT TTGTACATG ACCTCTTCTT GATCGTCCG CTAGCGGTGT TCATGTCTG 420  
 GTCGAAGCCC TATGAAGTAT TGGCCAAAA GCGGCCAAG CCAATTTGGT TTCTCGAAG 480  
 55 ATATTGATC CTTGCTCTGT GCACATCTG ATTTGTTGTT GTTCAGCTT GTCCGTGGC 540

TOGCAGTOCA GCATATGAAG TGGTACCGGC AGCCAGTGGT CGGACGACG AACATGTTGC 600  
 TTCCGANGAN NACNCAACCC TTTCCTINGTC TCCACTTCCA TAAACCCCTGG TCCCAATONT 660  
 GCTTCCGGTN GTCCNCCCN NCCNCNAACC NAANTTGGAA AATTTTGGTT TATGGCANIT 720  
 CCCCCTTCCC TGACCCCTCCC GGTGGANNAT TTCCCCCCCC CGAACAACCT TGGCNCCTTT 780  
 CACTCCCGAA GTTCTCCAT NTC 803

## (2) INFORMATION FOR SEQ ID NO:406:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1303RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:406:

GATCAGGTUG CCTTTATGGC CACTCTGTT GGACTCATAG TATATCTCGG CGACTGCACT 60  
 ATTACTGGAC TGCTTGTCAA GATCTTGGCG ACCCATCAG CCGACTATAC TACATGTCTC 120  
 GTTGGGCTTT GCGTGGCTAA CCGGCAGAAA AGATACTTT ATACTTTATA ATACCAGTGA 180  
 GCGGCCATA CCAGCTAATC CATCTTTGTT GCCAATAAT TACAATATTC CTTTGTAGTA 240  
 CTGGAATTGG GCTTATCTTT ACAGTGTGAC ATCAATTTTC TATCGTAATT CGCTATCTCC 300  
 GCTCGCAATC ACTGCACGTC AAACCATAT CGTCTGATA GATAAAGATT ATAGGGTAGC 360  
 GATCAATAGT ACCGGTAAAG GGTGACCAA TATCTGTCTG GCGTGTTTA GATGGCCGAG 420  
 ACCGTAGAAT GTGGGAGCAT GCTGGTTTAG CGATATGGA AGCCTTCACT AGAACCCCTG 480  
 CACTAGTAGA GCACAGAAC TTGAGACTTA CAGCTGTTGG AAGTATAAGT TGTAATTTTC 540  
 CAAGGGTGGC AAGTAATATC AATTGATTN AAATGACTTA CCGCTACGTT GAAGTCTTA 600  
 CTTTAANTTG GGTGGGGCCC ATCAAGCCCT GACACTCTTG ACTTTCCCC ATGAAAAAAC 660  
 TCCCGGTGG GTTCNANCC CAITNCCCAA ATACANTCCA TANGTCTGG CCCTTAACCA 720  
 CTGNTCCCG AGGATTTTTT TNCANANAAG ANNNACTTT TAAATTTGC CAC 773

## (2) INFORMATION FOR SEQ ID NO:407:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1303UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:407:

5 GATCTAAGTC CTCTCCCCCA AGCGGTGACG CAAGTGGACT GTCTGTGGCT CGGTTAATAA 60  
 AGTTATCGAG ATGGTCCACA AGCTCATCCA CCTGGGATAT ATGTGGGCTG TGAGTAGGGG 120  
 CAGAGTCACG TGGGTGTGCG AACGTGACAT CAGACTTTTG GGACGGGCTT OCTAGCTCAG 180  
 10 GGTOCAAATC AATGACACCC TTTTCCACCT CTGCCAGCGA GCGCAAGAAC TTTTGTCTA 240  
 ATATATAGTC GTTAGTTTGG ACCACGCAAG AAACGGGTG TGTGTGGCTT OCTGACGCTC 300  
 TCCCGTGTAC CTCGGCTGGG CTGATGACTT TGCCAGTGGG TGGGTGACGG CTCTTGAGA 360  
 15 TGACTTGATC GGGGACTGC CACTTTGCCA ATCGAGGATC GTCTACAGTT GTAAACGGGC 420  
 GCACTTTCTT TTTGTAGGT GCTCGGCTG CTGGTACTGG ACTCTCTCTG GACTGTCTGG 480  
 GCGTACTGG ACCTGCTGCT GCTGCTGTGA CTGGAACCGA AAAAGAAAAA TGACTTCCCC 540  
 20 TCTTTTCATA TGACATCCC NGTGTGANA CNTACTATTG GCGCCNAGAA AATAANTTAG 600  
 GGNAAATAC ACTCCTATG TTTGCTATA TTTCCNTAC CATATACAGC CTGCTGATTC 660  
 CCAGTTTAN AANTTTAAGT GCGTTACCTT ATATGTTGAA NCCCGTTATA TGAAGAATAA 720  
 25 CCCCCAANT TTGCAANGAA CCGGNAAGC ATTGCTCTT TCANCANNAT TAAGNACATT 780  
 TTGTCTTTTC AAGNACTTTA TAAGNCC 807

## (2) INFORMATION FOR SEQ ID NO:408:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 778 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 35 (ii) MOLECULE TYPE: DNA (genomic)  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1304RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:408:

GATCAATGAG CGTGGCTACT ACTGATGCTT ACTGCAGTGC TGTGTCAATA TTACATATCG 60  
 45 GTGGATAGCT AGATAAAAAT GCTATACATA TATCTGTGCG CATTGTGCGA ATCTATATCT 120  
 ATTTGTGCGG ACGTGGCGA CCAGTAGGAG GTTGTGTGCC GCGCGGTGGG CAAATTCCGC 180  
 TGAGATCAAG CCATGGCCTG TGCTCTTGCC CTCCCTAGA TGGTAGGTGC CACTGTGAAT 240  
 50 AAAACCGAG AGATCTTGTG CCGCGGCGAG AGGCTGATCG GCGTCATGGG TCCGTTTGCC 300  
 CCGAGCATTC TATTCTCTGG AAGCGACTGC CTGCCAATGG GCGAGATGCT TGACAGGCAC 360  
 TGCATACAAG CGGCATTGT CCTGAAATG GCGCGTGTG AGGCTGTAC AGACAACGCC 420  
 55 GATCACCGGA AGTTGGGTGG TCACAACAGC CAGTTGGAGG GCGAAGCCTG TGTCCATAGG 480



AGGTTTGTGA AAAAGAGACA ACTGGCTTAT TGTNAAGGTC CCGGGGANTC NONAAAAANAA 540  
 TCTTGGTGGC AATACCAACN CCTAAGGATT TCANCGNGTT CCCCACCTIN ATTININTTIN 600  
 5 TNGCNCCCGT TTCAAATTCA TATNGGTGGG TTGCNCGGN GAATNTTCTT TTNVATTICA 660  
 AACCAACGNG GGGGNGCCNT TTGAGATTTG GANACNCCC TCNAAANANA NTGTGCCCT 720  
 TTNCCNNA AACAATAATN NGGAGGAAGA GGTTTTANCC CNNTATATNC CCCCNCN 778

## (2) INFORMATION FOR SEQ ID NO:409:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 792 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1305RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:409:

GATCAATGTA TCCATTATAC CCAGCTTTCG CAGCGACATA ATATATTGAC TTGATTTTAA 60  
 AGCGGTAGAA CTTTACGGGG CTAGGGCCGC TAGGTATCCA AGGTTTAGCA TCAGGATCCA 120  
 CGTCTGCAAA GCACTTCTGC AAGGCTGGAA TGGGCTGGAG TACTTCGAGC TCACCCGCGA 180  
 30 AGTTTGACAG AGGTGCTTTC ATGGGGTCTT CAATCGATAT AGACGCAACT GAGAAAGACA 240  
 CGTTGTATT GTTTTATAGC TTTACTTGTT GTAGTGTGT GTGACCATC AAAAAAATGG 300  
 GCTGGCCGTC ATGCTCTACT CCTCACATC TGTOGGGAGA AATATAGTAC ATTCTAATAC 360  
 35 CATATGGAGT ACGGTTTGA TTGATTGTTG TCACTGGAA AGAATTTTCG TCTTAAATTA 420  
 ATTTCTGAG TTGACTGCT GCTGTGTGT CCTCTGCGA CGCTTGGCGG AAAGCCGAAG 480  
 TAACTAGTGC CAAAAACAT GTAACIAATG AAAAAATCGA CTTCATTGTT GCTATTGAGT 540  
 40 GCCAATAGGC GAGACTCATC CATATGTNAT GAAAGCGTTT ATANATONT GTINTGGCTT 600  
 GAAAGAATTA TTATACTTTT CCGGGCGGTT ACATTATCTT CCAACCAAAT TGTTCCTTT 660  
 TNGANAGNA ATCCCAAAA TTTTNAAT TAATNTGTCN NGCANCNGT TTTTCCCCG 720  
 45 GNGGGGAAAA NAAAGCNGN NACCGGCCAA ANCCGAATAA AGGATTTCOA TNAAAACCCA 780  
 ATTNTCCNAA AC 792

## (2) INFORMATION FOR SEQ ID NO:410:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 812 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1305UP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:410:

GATCCCCAAG AAGAACATCA AGATCCACCG GTTCTAGGCG CTATGTACTT TGTGTAACTC 60  
 AATACATATC CTCTCTCTCC TCCACCACCA CCACCTCTTC CTCACGTC CCCTGCGCCT 120  
 CCGCATAGTA CTTACACACG TACGGGAACA GCTCTCTGCT GAACAGCCTG GCCAGCTGCT 180  
 CCGCGTTGGC AAACCTCTCG CCGCGCGGCT CGCTGTGCA CCGGAACAC GCAAAGAAGC 240  
 TCCGTCGTA GCGCTTGGC CACTCATCT CCACCGCGC GCTCCGCACT TCCCGTCT 300  
 CCCCCACGT GAATGCTTC CTCAGCTCT GCGCCGCGAG CTTGCCCTCC ACCTCCCCGA 360  
 ACTCCACGT GATCGCAAAG TCCACGCCC CCGCCCCGCG CCACTCCACC TCCACCGCC 420  
 GGATCGCTC CAGGTACGCG CAGTCCGCG CCGGCAAGTA GTTGGGAAA ATCCCCGTGC 480  
 TCGTCAGCA CGAATCCCC AGAACCCGCG GATCCCCCTG ATCGCTTGC TCGCGCGCG 540  
 GTATACGCG CCGAGCGCG CTGCCGCTCC ACCTCCAGCG CCGGCTCTC CCGCTCCCG 600  
 NCCGCTNGA NTCCGAAGN GCTCCAGCG CCGCGCTGCG CCGTTAGTC CCGTGGCGC 660  
 CATTTAGNG GGGNGGCGC TTNNITGTT NNNGAAGNA GNGTCCGNT TCCNGGCGC 720  
 GVNINGTTT TGGGNGGAG NACGGNTT TTGGANCC CANTCNGA NTCTGGNGC 780  
 GAANGNGT TNCNCCNN TTGAGCCCC CT 812

## (2) INFORMATION FOR SEQ ID NO:411:

## (i) SEQUENCE CHARACTERISTICS:

35

- (A) LENGTH: 778 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

40

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1306RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:411:

45

GATCTGATAT TGGGTAATTG CAACCTTTGC ACCGCTTTGA AAAGTACTTT AGGAAGTGGT 60  
 ATTTGCAATA TAGTTCATCA TTGTAGTGA AGCAGAGGA TACCTTACAC TTGGTACCGC 120  
 AAACCGTGCA GCAGAAGTGT TCTCGTCAT ATAGCTTACC AAATGTATTG TAATACAGC 180  
 CGCTCAGTGG CTTATTGCAC ACATAACACA ATAGCTTGT CCGGTGAAA TAATCTGCT 240  
 GGCATAGCAG TACCCTTCA GACGTATCG GGAGCTCATA AGGGAAGAAC TTGGGGCGAC 300  
 ACAAAGCTCC ACAATCGTGA CAAACAGAC AGTTTTCATG GTAGTAATCA CCAAGCGCCT 360

55

TCAGGGAGTT CTGGTGATA ACCCCCTTGC ATTGTTTACA GATTTTGGCC GTTTTTTGAG 420  
 ATGAGGTGGC GGTTTATGCT CCGCAGAGT TGGCATTACT TGCTCGAGC CACTGTGCT 480  
 5 ATGGTTGATA TGGTCACTAT ACGTCCAGCA ATAGCTGTGC TTCTGTATAT TAGTCATGAA 540  
 AAACAGTAGC ACTCCCTATC TTACCCCTGC NGATCGTATT GGTACCGCCA AATNGTTAAC 600  
 CCATTTTCCA AGAACATTCT ACCNCTTCCG TTTTGGCCCA AAGAGAGGTN TGCTATATTT 660  
 10 GCCAACAAAA GCCCACTGA AATTNAANAA ACCCTTTTTT CCCCCTTTTN TTTCTCCCGA 720  
 GGAACCTTTT CGGCAANTTT CNOCTAAAT TGNTGGGGG NTGANANCCN AGAAAANC 778

(2) INFORMATION FOR SEQ ID NO:412:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 806 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1306UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:412:

GATCATTTCA GTGGATGGCG ACATTCATAT GGATATCAGT TGGACTTTTG TTTCCAGTCT 60  
 TATTCCACTG ATTTTCAGGT TACAAGAATT GCGAAGGGT CTCCATTTTG TAGGGACGAA 120  
 30 CAATTGTAAG ATGTCTCAGG AATTCAAGAC TCAGGTGAA ACGAAACTA TTATCTATC 180  
 CCTTCCTGTA GGGGACGATA CCTACAGAT GATTATCCAA CCACTCTCTT ACGAACTGTC 240  
 ACTACATACA GTTTTCACTG ATTTTATTTT CATATCTAAG GTACAAAGCT CGGAAACTAG 300  
 35 GGATATCCCA ATTATTCGGG AAATTAATAAT TGATATCAA ACAGCCAATT TTCAAGTGAA 360  
 ATGTIACAAC TTGAATTGT CGGAGACCT GCTAACATCA AAGCTACGGG GGAGTGTGTC 420  
 TCGAGCCGTT GAACTTTATT GTTCTGATAG TGACATCAAG TTGCTTTTTC ACGAATGTCC 480  
 40 CCCCCCCGA AATGAATACC CGGNATVNC ATTCTINAAC CGAATTOCCA AAACCCNTIN 540  
 TNAANTAATC CCTTTAAAAA TTNATTTTTC CCAAGNITT ACNCCCGCA ATTTTTHCC 600  
 CAAATGGGCC CCTTANATGA AAAAANACTN CACCCCCCN NOGAAAANAA ATTTCNCTTT 660  
 45 GGAAANTINN AAACGAATTA TTNCNCCCT TTNCCCCC CCGGAAANAC ANINPTTCT 720  
 CCCCCCTTT AGGAAAANTG TTTTCCCCNA TTNANANIN TCNCCNCC CCGNNAACNA 780  
 50 AAATNTTAAA NCACCCCNIN TTINING 806

(2) INFORMATION FOR SEQ ID NO:413:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1307RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:413:

```

10  GATCCCTTTA TCTCATATTA TAGTCCATAG TACCCCGTGG ATGCGTACCA CACAGAGGTC      60
    CCTCTTCTGG AACTGAGACC TAGATATCTT GCGATATCAT TGAAAATATC GTTCAATTGC      120
15  TCTTCGGTGA GCGCGTTAAC TTCCGCTCG ATATCAGCAT CCGGTGTTTC CGAGATGTGG      180
    AAGTCTCAA CTTTGCCCTC CAAAACTCC TCAAAGTCTT CTGTCTCTCT CAGTGTGGGT      240
    GGCAACAAC CATAAAATTT CGCAAGCTTA TACAGCTTCA CATTGTCTAG ACTTTGGAAG      300
20  TCGCCCAACG TGAGAGGGAA TAGCGCTCC TTCAGTCCG GAATCTCAC GTCCCGGTTT      360
    GGCAATGGAG CCAAGAAGTC CTTCTCTCC GACTTCGTGG AATTCACTAA GCGCCGCACC      420
    GACCGCTCTT CCATCGTGTG AAGCTGGCCC TGAAGCTCCC CCACTAGCTG CACTAAGTCC      480
25  TCAATGGTGG CGAAATCCGT TGTATCAAAC TTGCCGGCGC CCGCTTTAGG AAGGAACTTT      540
    TCGTCTAAGT TTGCCATGTC ATGCTTTTGC TTGCTGACCT GTAGCTCCAG CACCGACTGT      600
    CCTGTCTTGG TGATTAGGAC GCTCTGCGT TTAAGTAGCG CCTGTAGCTC CTCAACTGTT      660
30  TCTTCAATGC CTCGTCTGAC ATAAGCACT TCAAATTTAG TAGAAGCCTT CTGAATATTC      720
    CTACACCAA CCGCGCAGAG AGAATGGTAA AGA                                     753

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(2) INFORMATION FOR SEQ ID NO:414:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 811 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1307UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:414:

```

45  GATCCACCAA AGGTTATTTT ACTATATGG CCTCCGGGA CAGGTAAGAC ACTTTGTGOC      60
    CGTGCGGTGG CCAACAGGAC CGATGCTACA TTTATCAGAG TCATTGGCTC CGAATTAGTA      120
50  CAGAAGTACG TGGTGAAGG TCTAGAATG GTTAGAGAGT TGTTTGAAAT GCCCAGAACA      180
    AAAAAGGCAT GTATTATTTT CTTGACGAA GTGGACGAA TTGGCGGTGC TCGTTTGTGAC      240
    GATGGAGCGG GTGGTGACAA TGAGGTCCAA AGAACTATGT TGAATTCAT TACGCAACTA      300
55  GACGGATTGG ATCCACGTGG TAATATCAAG GTGATGTTG CTACCAATAG GCGAACAAC      360

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TIAGACCCAG CATGTGTGAG ACCCGGTAGA ATAGACCGTA AGGTTAGAAT TCTCTCTTCC 420  
 GGATTITGAA GCGCGTGCCA ATATTTTCCC GCATTCCACAC AAAGTCCATG AGTGTGTGAGC 480  
 GTGGTATTAG ATGGAATTGA TTCCCACTTG GTGTCCAACT CCACCGGCGC TGACTANATC 540  
 TNGTTTGGCC CGAGGCTGGC ATTTTGTCAA TCCAATTCCC GACCCAGGTT ACCTACAGAA 600  
 ANGACTTCTT TAAACNGTG GATAAGTCTT CCACGGCTAT AAAAATTCAC NCCCTTCCC 660  
 CGTTTITGTC AAACCCNAN CNNTCNCCCC CCTTGNGCG TTTTITTAAG GGNITATTTA 720  
 TCCCAAANNNG TINTCTTTT ACNATACTAN TGTTCCAATT TCTATNAAAT NTINTCCCC 780  
 CCGTGAAANC CTNCCCCGTT NGCACCCCTA T 811

## (2) INFORMATION FOR SEQ ID NO:415:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1308RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:415:

GATCTGTCTG CTGGTACACC GATGAACGAA ATAATTGTGA CGGTCAOGGA CTTCGAGAAT 60  
 GCACTTCGGA AGATAAAGCC TTCCGTACGC GATAAGATA GAAIGAAATA CAATAAGCTA 120  
 AACAAAAAAA TGGGCTGGAA TGACGAAGCA GCGGTGCAAG TCGAAGAAGA AGCATAGAGC 180  
 AGCAAGTTAA ATAGGCACAG CTAIGTIACA ATAACCAATT TCAACTTGTT CAAAGTCGTC 240  
 CCGTCTTAC AGATTTTACA CATGGAGAGG GCGGAATTTA CTGTGTATAA TGCCCTCTCC 300  
 TCGGAAGTT TTTTGAATC TTCCAGACAT ATTCCGTATT TCTTCTTTT CGAGAAAGAA 360  
 ACATATGGTA TTTCTCTATT CCTGTAACTT GAGCTTAGCA ATTTCTGTG ATATAGTTCC 420  
 GCAAAGAGGT AGATCCGTGG CACCTCTGAC AAGAACGAAG TTATTTCTCA GAGAATGAAC 480  
 ACGGCCGGAT ACATGCCAG AATGTATATG TTCATAAACT TGGGCTCCAA CATCAATGGA 540  
 ATGGATAAGA GCGAGGTAA CAAGTCCCAT ACTAGTATAG TCCAGCGGAA TGCTTCAACA 600  
 TTGGAATACC CGCACATGTC ATATCCGAG CTCTTTGATT GATATAACAA CCCCNCCTT 660  
 NTINTGCCNC AAAATTCCTC CTGATGGTAC CCTAANGT TCTTGCAAAA GCGGAACCTT 720  
 ATCCCCCTGG AGCCNAAACC CTTTACGAGN AACNNATTAT GCGCCGGTNT TTNAGTCCC 780  
 TNNCCGTGTC N 791

## (2) INFORMATION FOR SEQ ID NO:416:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 817 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1308UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:416:

GATCAAGTGG GCGTAAGTC GCAGAGAAAC TTGCAACTGA ACTGOCAC TG GGGTCATGC	60
ACCACCAAGA CGTTAAGOG CGACCATATC ACCTOCCACC TGCGTGTGCA TGTTCCOCTG	120
AAACCCCTTCA GCTGCTCCAC ATGZAGCCGT AAGTTTAAAC GCGCGCAGA CTTGAAGAAA	180
CACCTGAAAG TGCACATGGA GGACACCATG AAAGAGCGTT CGGTGCGGC GCGGGGCTCG	240
CGTGGTGTTC GCAAGACAGG CGTTAACAAG GGCTCTGCGC TACAAGAGAA GCGGGGCAAG	300
TTACCCCAAC TGA CTGTGGA GAGCTTTGTC AGCCAGGAGA TGCAAAATTA CTACCCCTAC	360
TACAAAAGCA GACAGCACCT AGACGAAACA CTGTGCGACA TTATTCTCCC GCGGGGCAAG	420
CGCTCTAGGT TGGTACTTTG CGGTGCGAAC CGCCAAGCTA CACAAGGAAA GCAGTGTCTT	480
CTTCAGGAG CTGTGCGAGG ACATGTCTCG TCGGTTCGCT TCTCTTGCTC CTTGCAACAG	540
CGGGGGGCTT GCGGTGAGA TGGTAATGCT TCGGGGGGCG CAGAACAGCA ATATGCAAGC	600
CGTGCCCTAG ATATCCGAGC GATGCGCGGA CTCCTCTCCT TTGGTGA CT TCNGGAGCG	660
AATCCGACCC TTTGCGCGAG AACACTTCC GACCCCTCC ATATCCCTGC TCTANCTGCC	720
CNCTCAGCG CTTTCTCATA AAATGCAAT GTTGCGCGAN CCTATCTCA TCAAGCCCCC	780
TGATANACCC TGNAAAAGAC TGANTCCCCC CCAAACC	817

(2) INFORMATION FOR SEQ ID NO:417:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 795 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1309RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:417:

GATCAATTAT TAGAGGCAAT ATCAAGAAG TCCCATATTA CTGAGGAGAA CAGGGAACAG	60
CCTGGAGAAA GAATGCCGCA GACGTACAGA TACAGCTGG AAAATCAGCT TCGCCAGTGA	120
GTGCTCGAAC AGCCGATAAG AGTATTGACA GTGGTAGCGT GCAAGAGTCA ACGACAAAAT	180

GAACAGAACA TCATACTTCG GGCOCGAGAT GTTGAAGCTC GACTTGGTCC GDCCGTGGAC 240  
 CTTTTTTGAA GAAGTTGCGC CAGGATCCCA CGCGGGCCTT GCGCGACGCA GCAGGGACTG 300  
 GTCTCCAGCG CGCCAGCAGC ACGGAGCTTG TCACCAAGCT CACAGAGCTC ATGCCATAC 360  
 CCGCGCGCGC AGCCATGGGC GGCATTTGTA TGCCCCACGG AATGAGGACG CCCATGCTGA 420  
 CTTGGGAGCC ATGAGAGAAT TGTACAGGAC TGCCAGAAA ATGTTTCACT TGACGGGGTT 480  
 AACGTGGCGC GCGCGAGATT CGATGCCATA CAGAATGCGG TTTAGCGGCG GCGCCCGAGG 540  
 AATGTCCCAA ACCACGATTG CCGCGCGTTC CGCAGGAAGT CACTGTTGCC GGACAGCGAA 600  
 ATACCGAGIT CACTTTTACA ATTGCCACAA TTTCTTTGAN GCGTCTTCCC GATAAGGCAC 660  
 ATATTNGTIN TTTTTCGCGC ACTGCGGCAA NGTNOCACTT GCGCCCTTGG TACTTTCCCT 720  
 GAACATTTTG ACGGATNCCC AANCGTGCAA ACTCTCCNC CCGTGTINN CCATACCAT 780  
 CCANTTTTTG GCNC 795

## (2) INFORMATION FOR SEQ ID NO:418:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 797 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1309UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:418:

GATCAGGACC GCGTCNCTG ATTGGAITGG CCATGAGTTT AAGTATGACC CAGAGGGCGG 60  
 CCTGGTGTGA TCTAATCTGA TTAACATCGT AGCTGGCATC CAGAAGAAGA CTATCGGGGC 120  
 GGTGGAGGCA GATATTGCTG GATTTAAGGA CCACGCAACT TTTAAAACT ATGTACAGA 180  
 CATCTTAGTA GCTGAGCTGA GGGGGCCAG AGAGGAGTTT GCGCGCTATA TGAATGATAA 240  
 ATCATACATA TACGAGTTG AGCGCAATGG GGCTGAGCGA GCAGGTGCGA TAGCTGCTAA 300  
 AACCTTGCCA GAAGTCAGAG CGATAATGGG TTATTAGTTA TATTCAGATT CCAACTTTGT 360  
 CTATAGACTA GCAATAAITA TAAAGATACA TCAAGAAGAC CAAGAGCAGA TGCGTAACTG 420  
 GTTGTCACTC TTGGACCTG CCGGATATCA GCACATGCAA CCAATATCTG CTTACAGCT 480  
 CCTCCCGCTT CTGTTAGCT ATTGTGCCAC CTGTATCTT CCATCGTTA TACAGCCAGC 540  
 TCAGCACATC ATCATCTAT TTTAGCCCA TTCTGCTAGG CTGATGCAAT AGACTTCCAT 600  
 AATTGGTAAT CATGTGCCN TTATTTTPTA GGTACCAAC ATCTNTTTC CNATGAAAAN 660  
 CGTGACAATC CACCGTTT TCAACCTCC CTCATNAAA TMTCTTCAT CGTGGGTTTC 720  
 GGATCAANCC CTNNGNTCN TCCCTNCGC CTCATCNG GNATTTACAC CMTNTTPTT 780

CTCCCCCTC ATNAAC

797

## (2) INFORMATION FOR SEQ ID NO:419:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 830 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1310UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:419:

GATCAAAAAA	AATTTTAATA	CTGAAAAGA	AATGCCACAA	CTAAGCTCAG	CTAOCITAAA	60
GAATCGGGAC	CAAAGCTGTA	AGGCAACAGC	TCTTCCAATG	TTCGCTGCAG	AAOCTTGGAC	120
CCGTGGGGT	TCATCATAAT	CACCGTGAGC	TTCCTGGGAT	CAAGAACTC	GGCAGGACC	180
TGCCCCAAA	TCCCACACCG	GGTCACGAG	TGGACGAGT	CCCCACTCAA	TGGATGCAG	240
ACCCAATTGC	TATGCCCGGC	TGTTACCGCC	TTTAGGACCG	CTGTGCGTTC	CGGCAATA	300
CCGCTGGGT	AACTGGCAAT	CTCGAGTTA	GCGCGACAA	TATACTCGCC	TGAGCTGTTC	360
AAGATGCAGC	AGCCACGCG	GAACTTGGAG	TTATGGGCTG	TACGAGAGCT	CCTTCGCGCC	420
TAGTCTCGA	GCAACCGCGC	CCTGATATCG	CTCTCCCTGT	GTCTTTGCCA	TTGGCTTCOG	480
TGGGCTCGCC	TCTTAGGTAT	TGGGTTCC	CTAAGTACTG	GCTGCGAACC	CTATGTTTT	540
TTGCAGGGGA	ACGAATTGCG	CCCGAACCGG	GTGAATCCCG	GGAACATNCA	ANTACCCNCT	600
TTTGGVINC	GGGVAAGGG	NNANNITCCN	NNCTTNGCNC	CGGNGGAAN	AAANAATGTT	660
AACCATGTGG	ANTAAACCTT	TAANATGANN	CCTATGGCCN	GTTTAACPIT	ATCCCCCNC	720
CCCCCTTTT	AAANGTNNNA	NCCCCGCCNT	TNTAOCCTTA	NNDGNGGGG	GGNGCINNANC	780
CCACAAATNN	TNTGTGNGC	GNGNGCGTN	NCTAATATGG	AGCCTNGGNN		830

## (2) INFORMATION FOR SEQ ID NO:420:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 799 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1311RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:420:

GATCTTATCG	TTCAGCGTAC	CGTCTGCAAG	AATCTGAGAC	ATAAACTTGC	GCTGCGACGA	60
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GTTCTTGSTA AATCTCTTGT AGTACTGTGC GTTGTCCGCT TCCAAGGCTT CCTTCCCCCG 120  
 CTTGTACAGC AGCTCCACTT TTTOGGTUGA GAGGGGCTCT TGCTGGGAG AAGCTTCCGC 180  
 5 GTCTAGCGGC ACCTGTGACC AGGCGATGTC CGCAGGCACC AGAAGGTTGC CGCTGGGAC 240  
 CGAGCGCAGG TCATGGACCA TGCCGGGGGC AGTTTCTTCC CCGGGGACT CGGCATOGAA 300  
 CCCCOCATCG GACTGGGGCG CCTCTCCGGC GGACTGGGGC GCATGGCTGT CCTCTCGGC 360  
 10 TTGCTCTTGG GCTTGTCTCT CGGCTTGCTC CTGGGCTTGC TCTCTGTCTT GCTCTCGGC 420  
 TTGCTCTTCC AGCGAATCTT CCGGCTGGCT GCTCTGTCTT GCTGGCGCTG CCGCTGCTGC 480  
 CGCCGGCAGC CCATGTTCCG AGCAGCGCGC TGAGCTGTGT CTGCAGCGCG GCATCGCGCT 540  
 15 CTCCTTGGTC GCGGCTGAAT GCGTGTGGC TGAGCTGTGC TGGGTGGCT CAGGCGTTCC 600  
 CTTTCTTTC CTGGTTTCC CTTTGTGNGN CCGGNGNAN ACTTTTTCCT TGGCTTNGN 720  
 20 CAATCTCTTT TTCAATTGGT TTTCGCCCA AAATTTTAN ANNGGTTAN CTTTTCANN 780  
 NGGNGNNA GAGAACTT 799

## (2) INFORMATION FOR SEQ ID NO:421:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 790 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1311UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:421:

GATCTTCGA TGCATATTTC CGCTCTCACC TTGGCGTTA AGTTTTTCCA TGTAGATAGC 60  
 40 TCAAAGTCAT CATCCCCGTC ATCTTTTTC GGTATAGAT TGTGTGATC TTCTCTTCT 120  
 TCTCTTCTT CTCTCTCTC TTCTTCTCG TCTATATGAT CTTCGGCTGT CAGTTCATG 180  
 TCTATTCAT AATGGGTC AACTTTCCG TTGGGCTCT TTGTCTGGT ATGATCTTC 240  
 45 TGGATAAGTT TCTGTCCATC TGCCAATCC GTTTTCTCAT CAGTAGCTTG CGAAGCGGC 300  
 ACASTATGGA TTGTTTTGA GCTAATTGA TCACTACGT CAGATCTTC AAGAGTCTT 360  
 TTGCCAGCAT GACTTTCCGA AGATTTGAG CGTTTACCIG CAGGCGCACT CTTACCCCT 420  
 50 TTATCTGAG GAATGTAGT CTCACTGCT TCATCTTCT GTATGTCTG TATGCTCTC 480  
 CTCAGATGC CGCCCTTAC CTGTCCCTAC ACTCTTATC ATCTCTCTC TCATATCTAC 540  
 CTCTTTTCCA GTCTCTCCA CTCATACTAT CTCTACCACA TATCAGGATA ACGTATAATG 600  
 55 GTGTGACTTT TTGGATAGC ATCTCTGCC CTAGGAAGC TNGGTTCCG AATATAATTT 660

AACATCTTCC CAATCACAAA TTNCTCAGTA ACNGTGGTAA ATTNAAACGN AANTTTTTTAA 720  
 CTTTCCATAC GGTMTANGNC CCATGGCTCT TGAAANCGGA AAAATCCGGG GCCCCCCTTN 780  
 GAAC TTGTTT 790

## (2) INFORMATION FOR SEQ ID NO:422:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 788 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1312RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:422:

GATCATCTTC ACCAGTACAA ATGTATATTT ATATGTAATT GTCTCTCTCT GCTTTTGCCA 60  
 TATTTTTTFA TTTTGTGG TGACAGGTG CACTGACCT GACGGCAAG CCGCAGGGC 120  
 GATTCTTGGC AACTTTTGGT CAACGGCGA CAGACAGTCA GAAAGTATA GGAAACAATT 180  
 AAATACGTTG TTATGTTATA TGAAGTATA CATAAGTGGC TGCCATCAGG TTATATATTG 240  
 CTTTAAATAA CCCATTGGTC TGGAAGCTC CTCTGTGAAT GCTGGCTCA AACGGGATG 300  
 GTTCTGTGG ATCTCGGGCA AATATTACTG ATAATTGATC TACAGGCTCT TTTGCTCTT 360  
 GAGTCGGTGC TCTATCAGG ACGGTGGTA ACTGTAGCG ATAACATGTT TAAAGAAGTT 420  
 TAGTTCTTC TGTGAAGGAG CAGCAGCTT GAGTGCTTT TCATCATAAT ATTGTTCAAG 480  
 GTAGGAGAG AGGTAATGTT TGTCTCTGG TTCTTTGAAG GGCTGGATAA TAATGACTTG 540  
 ATGTGACTC CTGGTGATG TACATTTAAC ATGCCAATCC CAGTTCCCAA GTTAGATTCT 600  
 TACCGGTTTT GTTATACCTT GTTNATAAG GGTACTTTG CNGCCNACT TGCCAAGAAA 660  
 TCATCTTATC CTTTGANAG GTCACCTGTC CCTTAATTGT AAACCTACNC CCTTTACAAT 720  
 CTATGCTTAT ACCCGCAT TGTCCTGAA GGATTTTNT ATTAACCTG CACACATCC 780  
 TTGGCTGG 788

## (2) INFORMATION FOR SEQ ID NO:423:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 769 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1312UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:423:

5 GATCAGGCAA AGGATTCTTA CTCGTATGTT GGCAAGAACC TGTCACAGAA ATCCGACAGC 60  
 AAGTTCCTTC CTCGGAGGAT TCAATTTGAA CTCAGAGGT TTGACTATTT TCACTCTCTA 120  
 CTCAGTATG TTGTAGGATG TAAGCCTGCT GATTTTGTCTG TGTCACCTTC GAGGTTTCAA 180  
 TCTTOGATCG ACCCTAATAA TAAAAATACA AACATGCACC TCGTGAAGAA GTATOGTTTC 240  
 CATTTCTTAC CATTTAACA GATAAAGAGC CAACAGCGCA TAAGGCTTTC TAAAGTGTCC 300  
 AACTATTCTG ACTTGAATGA CTCTACCAA CTTCATCAG CTACCTCAGA ACCAAATAAG 360  
 CCCCACAAAG AAGGACTCTT ATGGTCTTAC AGGAATAATG GATGGCATAA ACAGTGGGTG 420  
 GTACTACAAG GATCAGAGCT CTCAGAATAT TCGATTGGA AGACGAAACC TAAGGTCTTC 480  
 AGCGACCGG CCATTAATTT GACGTTGTG TGTTTAAAC GTTCGGAGAA AAAGCCTAAC 540  
 GGATTTGATA TCATAACTAC CGACGGGAG GCTGTTCTT TCCAAGCAGA GTCAGAGGAT 600  
 GAAATGAAGC AGTGGCTGTA TCGCTTCAC TCTGCTGTG GGATAATAGC CATTGAGGAG 660  
 ACAGATGAGA ACAAGATCC ATTGTCTATT GTCGTAATG CGGATCCGTC AAATAGTGCA 720  
 25 TCTGTGACT GTCGAGGGA TAAGCAAGTG AATGGATATC TCTGAATAT 769

## (2) INFORMATION FOR SEQ ID NO:424:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 799 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1313RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:424:

40 GATCGTGTCT TGCTGACTTG CATGCTAGC TCAGTTCTTT ATTACCCGCC TCATGTTGAA 60  
 ATTTTCAGG AACCATGCA CCAATGTAC CGATGATATA GATTACATCT ACCCTTCGGC 120  
 AAGCCTGGAA GGAAGCTAGA CCTCTAATCT AGTAGCTTGC CATGTACATC CCGCCATCCG 180  
 45 ACCCGCAAG ACCAGCCAAG GTGACGGCGG GCCAGCTCTG CGAGCTGTGC CACGGCGGCA 240  
 AGCGCTGGT AAAGCGCCCG AAGAACTTGC AGAAAGTCTG TAAACTGTGC TTCTTCCATG 300  
 TATTGAAAC CGAAATCCAC AATACCATTA TGGAGAACA GCTATTCCAG CCGGGGGAGC 360  
 50 GGTGGCAGT TGGCGGTTC GGTGGGAAAG ACTCCAGGT GCTTGGTAC ATATTGAAGC 420  
 TGCTCAACGA AAGACACGAC TATGGTCTG AGATTGTGCT TCTTGACAT CGACGAAGGG 480  
 55 CATTGTGGCT ACCGAGACGA TTCCGTAGC TACTGTGAAG CGCAACCAG AGCAATACGG 540

TTTGCCCCCTG AGATTGTGTT CCTACAGGAC CTCTACGAAC TGGACGAATG ACGAATAGTG 600  
 CCTGGGCCCN GGAATGNCNA ACACTGNCNC TTAATGCGGG TTTTITGAC CCAGCGCCTG 660  
 5 ATTCGGGGGG GGNAAATGCTT GAATCCACCN NITTGTAAAN GGCCATACCC GAAAAAATGC 720  
 CNAAAGNGCC CANAAATCCT GCGCGGGAAA TTGGGCAAT CNAAATAACN CTTTTCOCOA 780  
 AANAGGTCCC GNTAANNIT 799

(2) INFORMATION FOR SEQ ID NO:425:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 819 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1313UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:425:

GATCAAAAAA GATACGGATG TTATGCTTGT TAAATATTA TATGCTATAG TACAACGTAT 60  
 CGGTCAAAC ATAACCGATG AGGACTATAT TTTTAAITCA CTAAGTTOGG CGAAGCATCT 120  
 CCGAAGAAA TAGCCTCTCTG TATGGGGCTA AGTCATAGG CGTCGGTTGG GCTCATCTCT 180  
 30 GGAGACTTTA AAGAATTAAAG TCGAAGGCT AGGCTCCCAT ACCCAAAGG CGAGTGGGCA 240  
 CTTTGTTCGA GAGATCCTTC TCACATAGCC TTCTTTAGTG ACAGTGGGCG AACATGGGCG 300  
 CCGGAAGGAA TACTTTGTCC GTGCAATGAA CCTTGGGATA AAGGCTACT TAGCCCGTTT 360  
 35 TTGAAAAATG TGACAGTCTT GTTCTTGATA TCTAGCTTGT ACCCTGTTGG AGTGGGTTCC 420  
 TTTGCAAGAC CAGTGGGTTT TTGGGAAAAG CTTGGGCTCT TCCCGAATG AATTTCTGAGT 480  
 CCTGGTAGGG AACATCGAG ACTTCCCAA AACNTTTN CNITCCATTT TCAAAAAAT 540  
 40 GGAAATCNC CCGGCCATTA TNGATCTCTT CCAAATTAC NNCNCCNCC TCACTTTNG 600  
 ACTTGGGNAT ANAGANCCCC NTNNACCC TCCAAANAAA AAAAATTCTC NINGIGCCCC 660  
 MINATCCCC CCGGGGCCN NNTTTAATT CNGGGGAAT AAATTTTGTA TCCNNGNG 720  
 45 TNGAAGCANG TTATNGCCCC CCTTGACCC ATNITTNACT TMTAATTTT TCCCNNGG 780  
 GNTGGAAACT TTGCCNAAAG GCANGCTTTT TGAACAGT 819

(2) INFORMATION FOR SEQ ID NO:426:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1314RP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:426:

GATCCATAAA CTATCTTCTC ACTGCGCGGA TCAGAAATAT CAAGGAATAG GCGACAATCG 60  
 10 GTAATGATTG GCTGAGCTC ACGCAGATAT TGGCGCACTT CTGATATCCG TGGGTGTTC  
 GATGCATGAT GCACATGAAT AAAAGGAAGA AGCTTCGAAA GAGGTACACG GCGCGGTAG 180  
 CGTGATGA GAGCTGTAG TTGGCTTCA ACATCAGCAA GTTCTCTAT ACGGAGCCA 240  
 15 GGGTGTCAA CATCATTTAT TAGACACTCC AGCAGTTTGT CTGAAAAAA GGTGTGCATG 300  
 GACAAGTGCA CCTCATCTT TGAGATGCG CGATAACGT CCTCAGCGA CGCCAGTCTC 360  
 ATCGTCAAC TGGTCAGAA AACTCTTGAT TGATAGCGTA ATCAGTCAG AAGVAGTGT 420  
 20 TAAAAGCACT TTGATGCCC CAGTGAAACC TAATCTCGT CCGATATAAA ATGAAAGTG 480  
 TTAGCAACAA TCTTCATAT CCGAAAGTG TTTTACAAGC TTCTTACGAT TTCCACTCC 540  
 TOGATTGAAT ACTCGGCGCN AATCTTTTA CCATATACAC CCNTINONGG GCTTTTGCAC 600  
 25 GAATCTNTA TTGTTGAAG AACTGGACAC TTGAAACTT TGCACATTGC NGANTCCGAA 660  
 ACNCTTTTCN CNGCGACTA ATNTNACCC CAATCTGAC CCAATACACT CCCCCCAAA 720  
 CATGACCCCG CACANGATN TTTTTCOCN AGAATTNTT NAACTINTTG CCCCCNANA 780  
 30 CATNTAAAT C 791

## (2) INFORMATION FOR SEQ ID NO:427:

## (i) SEQUENCE CHARACTERISTICS:

35 (A) LENGTH: 833 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1314UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:427:

45 GATCTTCTG CAGACAGATG CCGCGAGCT ACCCTTTGA ATCTTTATAT AAACCTTTT 60  
 CCAGCTGTAC CGCAGTAAAC TCCCTTGTCT TCAGGAGCTC CAGGCTGCA CCGCACTCG 120  
 AGGCTACAC GGTGACTGC ATTGGCTTCT GTGGCAGAC GGAAGTCTTA AACGAACCTC 180  
 50 AATCCCATCC AACCAGTTCT GCTAAGTAG CTACTTCTGG CCAATGCTC AGCCCATAC 240  
 CGTGGAGCA ATCTTTCAA GCCACATAA CGAAACCTAC ACAGTTACTG CGCAAGGCAA 300  
 GTCCAAAAG ACCACAGTTT CCGCAGTACC AGAGCAAAA GCTTAACTGT CAACACTTG 360  
 55 AACATTGGG TGGCTTAAC CATATGCCAC ATGAAGCAAT AGACCCCTAA AATAGAAAGC 420

GATTGGCCCG CAACAGACAT TCCTGGTGTG GTACTTCGAA CTCACATAGG GCTGCACAC 480  
 TGCTTAAAT CCTCGCTTGC AGCTCAGGCC ATGTCCCCCT CATTAGTGAC CCACCTTGAT 540  
 5 CTGAGCCCG CAATGATCG TCAGCGTGCA TCCGACITGG CATTGCAAGG GATGTTGATC 600  
 CCTGANGGG AGGCTTGCAA CAGCGCCNCC CTTGTTTNC ATCCATAGGC TGTGAGGCC 660  
 GGAATGATCC NCTCTCCAGG GGAACNCCCT CCCCACGCC CCATAGGGCC CACCTGCGN 720  
 10 TTTGCCCGG AACTCCCAA NONGGTTTA AANNTTTTT TTAANGNCC CAGTGGTNTC 780  
 AAGGCCCCCN NGCCTTTTTC CACCCGCAN TTNCTNAAT TTNNGGCG GNA 833

## (2) INFORMATION FOR SEQ ID NO:428:

## (1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 839 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1315RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:428:

GCGGCGCTC NNCCAACTAG TCGATCTCA TTTGTGCCC GCGGACAGG TTACCACCGC 60  
 TTTCTCTCC CGTCAGCATC TCAACTAGCT GCTGTAGCTG GTACTCCCTG TCGCCCGGA 120  
 30 ACACGTTGCA CTGTCTATT GCTGTGATG AAGATCGTG CAGCTGAAT ACATTACCT 180  
 AAGTGATCAG CCAACAAGC GCGTTGGGG GCACCAACGA CAGAGAGTG ATGATCGAAT 240  
 CCTTCAGCG CTGAGGTTT TOCTCTCCG CGTTACGTC CAGGAGTAG AAGAAGATCG 300  
 35 GCGCCACCTG CACCGCCCGA TTTGTGATG ACTCAACCT GGTGAGGTC AGTTCCCGCG 360  
 GCATCGCTC CTGAGACATG TTGGCATAGT GCTGCGGAG ATGTTCCGC GTCCCCGCAC 420  
 AGAGGGCAG CCAACAGTT CAGCGCAGC TCGATCTCG AGTACGGGT CAGCACCCGC 480  
 40 CTTACAGTGT TCGCCCCACC CACACCCAC CCGTTTGTG ACGAAAACCA CCGCCAGCT 540  
 CCTCCATC TOCTTCCAC GCGTTGTAC AGCATCCCN CCGCCNCCAC GTTCTTTT 600  
 45 CCGTTCCCG TCCGGGAGC CCGGGAAC ATTCCACGA AACCGCAC CCGTTTGT 660  
 CTTCTTCTT TTTTGAAC CACCTTGAA CGGAGCCA CTTTAMNC CTTTACCC 720  
 CTTTGATCCC CACCGAAC CCAATGGA ACCAANAGC CCAACN TCGNAAAAC 780  
 50 GANTTCCCN TTTCAGGTC CCATCCTTG CCCCCGGA AAAAAATNC NCCGCCCA 839

## (2) INFORMATION FOR SEQ ID NO:429:

## (1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 818 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1315UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:429:

GATCTTGCGG AATATCGGCT CCAATTCGGT ACCCATCCAC TTGACACTA CCGACTGCAC	60
CGCCAGCGTG TTCATCGGCA CAAGCTGCTC TCCTAGGCTC AGCACCAGCG GCACACAAA	120
GTAGAACCGC CCGGTGGTCT CCAGCTGCTC CCGCTGGTTC CGGAACGACA CGTAGTAGCA	180
ATAAGAGCCC GGTACGTACA CATCCACATC CACGCAGCTG TCTTCAAGA AACCTCGCT	240
CAGCAGATGC TTGTAAACTT TGTTCGGCTG GAATTTCGTA TTCTTTTCGG GCGGCGAGTT	300
GGTCCACTT AGCCCGTCCG GTGTACAGG CGATCCGGCG GCTACACCA ACCGCACCG	360
CAGCCCGCTG TCTTCCCGAG CGTCTCGGCT AACAGGTAAA CATGGCAAGG TGAGCACACC	420
CTTTCACACC TCTCTCTCA CCGCTCCCG GTTGTGGTCT AATCTCAACA GCAAGGTTTT	480
CATCGCTGTT TCGGCCCTTT GTTGGATCTT AAAGGAAGCT TCGCTTGTC TGCAGCTGCT	540
AGCCTTGGGA ACTGCCATAG TCTTTTGACC TTGACCCCGT GTTAAATAGT GCATTTTCACT	600
ATACACAATT TGACTTAAGN NCTCCGNCNG TGCTAACTGA GGGANATTAC CCNAAACCG	660
GANGGGANNA TAAAGNNTNA NAATTTCNCC GGTGNCACNC NTGCCNTATG NTTCNTTTT	720
TGAAANAAA CCTTNGGNN GGTNGGTGNN NAAAAATGA AAACCCNGNN TNAATACTNC	780
NTTACNTTN TCGGAAACA AAATNCGGC CCCCCGN	818

(2) INFORMATION FOR SEQ ID NO:430:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 798 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1316RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:430:

GATCAATAT ATCGATGGT CTGAAGGGTT GTCCAAGTGA GTAGCTTAGC GAATACTTTG	60
CCAAGGGCTC TCGACATCA AGAAGAGTCT CAAGATAATA ATAGTCTTTT TTGGGCAGTA	120
AGCGAAGATT GTTCTTCGCC TTGTTCATTT CTGGCCGGTC CCTGGACCCA TTGTGTGGGC	180
TGTTGAAAAA GCGCCAAAAG TACTTCAAAA TGACCGATTT TTGACCTGG AAACCTGCTT	240

GGAGAGAGAA GTCTGTCAGC AACGTAAATT CACTGAGAGA CAGCAGTGTT TCGATAATTG 300  
 CAGATTCTTG ATTCTCCTTC GTTAATTTTG GGTACAATTT AGATGAGCTT AATAAAAATT 360  
 5 GTAGTGTCTG GACAGATGGC GATTGAGCCA ATAAATAATG GCTGATGGAT TAAATGATGC 420  
 CAGCTGGGCC AACTCATCTG CATTCGCTAA GGAAAGCATT GATTTCAGAC TATAGTTATT 480  
 GGCAGCATCC ATGTACTTTG TTGTACTCGA TCAGGTCTTT CACTGAGACA CCGTCAGAAA 540  
 10 GCGTCACCGT CTCGTCAATG AGTTAGAGCC ATCCATAGAT TTCCCCGAGG CAGTTCCCGC 600  
 CATGAATTTT CACCCACTTC CCCCCCGTTC CATACCCGAA TTTGAACATT CCGGTCAAT 660  
 ACCTTCTTCC TCCCCCGGNT NITCNCAN AGGAAGTTA NATTCCTGNC CTTTTTTTIN 720  
 15 AAAACCCAAT TNCACCTTT TNGGGAANT TTTCGGGTT GAGNAAAANT CCNACNCCCG 780  
 GINGCCGGTT TAATTNCC 798

## (2) INFORMATION FOR SEQ ID NO:431:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 820 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1316UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:431:

GATCAACACT CGTACAAAGC AATATAGTCA CATGACCAGA TAATCGTGT GACTGGCACC 60  
 35 CATACATGGC CACCCATGCA CCCACATGAT GGTTTTCTTG GGGGGTGGGC GTGCTGGGC 120  
 GGGCTCCCCG GTCTACGCTG GCGGGTGTAG GCGGCGGCT GGGCGGCGAG GCGGAGCAAT 180  
 GGGCGGAGGA ACAGCGAGCG CGCCAGCAGC GGTGCGCAGC TGGAGCGTCC GGCATGTGTG 240  
 40 GAAATTTTGT AGAATATAGC ACTGTTATAC TGAACAGTAT ATAGAAAGAG CACTTCTGT 300  
 AGGTTTGAAC ATACTATACA AGCTCCCAAT CATGACGAT GCGTGTGTGT AAGAACAAGA 360  
 GATTGTCAAA GGGCAAGAAG GGTTTGAAGA AGAAGGTGT TGACCCATTC ACCAGAAAG 420  
 45 AATGGTACGA CATTAAGGCC CATCCACCTT CGAGAACAGA AACGTGGTGA AGACCTTGT 480  
 AACAGTCCAC CGTTTGAAGA ACGCAGCTNA CTCTTTGGAA GGGNNNTTC TTCAAGGINT 540  
 NGCNITGGCC AACCANCNGG TTONTAGAT TNNCNTTC NAAAGGTICA ATTANAAAT 600  
 50 TACAGGTUCC NGGGCAAAAC CTTTNGACA CTTUCCCCG TTGGGATTC CCCCCCNA 660  
 CATTTTAATT CAAAGGNCCA AAATTTGCGN ACCTTAATTA NGGNATNTCC TMTNAAACC 720  
 NGNAAAAANN TMTNTAATIN TTTNNCTTG CNINCCAAA AAAATTNCC CATTTNAAAA 780  
 55 ACNTTTTNNC CNICCCCTCN MTNACNCC NAAGGTTTIN 820



## (2) INFORMATION FOR SEQ ID NO:432:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1317RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:432:

GATCTTTATC TTTCGATGAT ATCTTTCTTG AAGAATCGAC AAACACCTGG TCCAGCAAAT 60  
 TCGAAGCTAA GTCTCTCCAA TCGGATGCAA AATAGTTGAC ATACCGCGCA TTFAACTTCA 120  
 CTAACCGGGC GGCACCAATA TCCTCCAGAA CTGTATTEAT TTGCTACGC TGAACGATTT 180  
 GTTCAATCAG CGTAATATTC GTCAATACAA AGAACCCAAT TCTCTGCATC TGAGGTATCC 240  
 TTTTATGTGG AGCTCCGACT TCGGGCTCTA AGTTTGGATT TAGAATCTTT TGGGCTTGC 300  
 GCTCTAGAGA TATGGTAAAG TAATCTATAG CATGCTGAA GAAGCAAGAG AGCAATTGCT 360  
 GTGCATTCCT CCGTGTCATA GATATGCTCC AAACATTTTT TGATTCATTG GGCAGGCATG 420  
 ATTGCGAGT CATGATTGT ATAGTAGCAA GGCAACCAGA CTTGTATTCA CTAAACTTGC 480  
 GTAGTCTGGA CATAACATCA ACTGTGGGCT CCAGTTACAC CATATCAGT GGTAACTGAG 540  
 CCCAGAGAAG CCGTTTTTGA CCGATGTACT TGCTTCTATC TTTTGAACA NCGACNCGA 600  
 AATTTCATTT CANGTCNGC TNCNCTCC CAAAACNGT CCNIGTTCT NTAAAGGTT 660  
 TNNCCCTAAA AATNGGGNTT CCCNNGINAG NITCCCCC AATTCNAACN NAANACCNA 720  
 TTTTNTAAT TCCCCNCA AATTCATTT ATACCCCCCN TTTTNGGTAT TTTAAATTN 780  
 GGGGGNCCN NITCCAAAA GGGGNG 807

## (2) INFORMATION FOR SEQ ID NO:433:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 835 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1317UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:433:

GATCGTCTT ATATTGTGA AAGAAGATT TTCTCAAGC ACTTTGAGCT GAATAATCTT 60  
 GTCAAACATA TTGTGAGGC TCGCTGGTC GTTAACCGCG CGAAACCTCT TGAGGAACCC 120

ATCTAAGATC ATAATTGCOCT TTCTGCGCTC CGATAAAGCT TTAATAGACT GATGGTGTGC 180  
 GCTCTTTTCT GCAACGCGGG ATTTAGITAT TTCTCTAAGC GATTCACAT CTTGTAAAGT 240  
 CAAAAATGAT AAACACACGA CTTTACTGC ACTGTTGTAC GGAATATAAT TCTCTTCAT 300  
 CTTTCCAAC CATTCGAAAA GTTGTTCGG CTGGAACGGC ATATGATTGT TTCTGTCCAC 360  
 AATTACAGCT CTGAAGTAT CTTTGTGTAG AAACCTTAGC GGTTCACCA TCAATTTGCT 420  
 CTTATCCTTA GTAACAATAT TATCATCTG TATGTGCCCC CAGGACTCTC CAAAAATATT 480  
 CTTCAATGCC AGCGGACTG TGTCTTTCC ACAACCAACC GTGGCCACAG GGAATGAAAA 540  
 TGAACCTGGT ATCTCGTCT ACCTTATCGA GCTCCAGATG CATACTGGTC CCCCCTAGCT 600  
 CCTTATATC CTCGAATTT CCATAATATC CAATCCCAA ATCCCAAT CTTCTTAGG 660  
 AANATTTCC NNACTINGAA ATCCCTTAC CTGTINTATA CCCCCTGNA ATTINGGATN 720  
 TTGATTCCNG CCAGGGANTA CNATTCCNA TTTTINTTG TGANNACAA NGCTTTTGAA 780  
 TTTTGTGCC CCCCCCTGT GNANTACCN CCTCTCTCC CCCCINTTN TTACN 835

## (2) INFORMATION FOR SEQ ID NO:434:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1318RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:434:

GATGCCCTCG TGTTCGCCC GGTGTGTCAG GCTGTGCGCA AGGAAGTGC CGAACCGACC 60  
 AACCAATCT GGCATGTCT TCGGTAGAT GAAACCTGC TGCTTGTGT CCACCGCATC 120  
 CCACAGTTG TTCAGAATAC CTTCTGCTC CGTCATGACT CTTGAGCGT GAGTGCAGTT 180  
 CCCAAGGCTT TTGTTGTGCT TGCCAGTTGA AACGACGCTC GCAGCGGCAA AACACACCG 240  
 GCCCCGCGGC AATTGCTCAG GTGCTCTCTC GCGCCACATA AGCAAGCACA CCTGACCGC 300  
 ACACGCACCC TGCAAAGTAG GTCATCACA AAGGGGCACC CCGCTGACC GTTGCTGCG 360  
 TCGAGCAGCC GCGCGCCAG CGCAACGGC CACCAGCATG CGGTTCTCC GTAGCGCGCG 420  
 GCGCGTTG CCAATGCGCA AAATACTTGT GTTTGCGCA CTGATGCGT CTGCGTCCG 480  
 CCGCGCGCGC CCGCGCGCA GGCACCGGTG CTTGGTCAAG GCGCCCGGC GCGCGCGGTC 540  
 GGTACGTTG GCGTTACCC GCGCGTCTGT TAGATCGAAG GTTCTAGGTC TGTGCGTGC 600  
 TGCCCTTGT TGTGCTACG CCAACAGTGG GCGCGCGTA CCGGCAGGC ACCAGTGGC 660  
 AGTGGCTATC ACGTGAAAG AGGCGCGTA ACGGTGTTT GCGCTGAGA CACATCGCAA 720

CTATTTACAG GGCACCTAGG NGTGTACC

748

## (2) INFORMATION FOR SEQ ID NO:435:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 758 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1318UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:435:

GCAAAAAATG AGGTCCGCCA TCGCGCGCGG CTGCGCGCGG TCGCGGACCA AGCTCCGCGG 60  
 CCGGTCCGCG CCCCACAGGC ACCAGCTGCG GCGTGGCGGG TAGCTGCGGC CCATGCGGCA 120  
 GTGCGGCACC GCGCCCGCGC GCGGCAAGCT CCACATGTGG CGCACCACCT TCTGTGTGAG 180  
 CACACCGGCC CCGCAAGTGG CCGGCGCTGG CGCGCGCGGC GGCACCTGGC GCTGTGTGCG 240  
 AGCCAACCTG CCTGTATGTA ACAACGCTGT AGGAATGCCC ATCTTTGCCC TTTCGGCTGG 300  
 CTGCGCGCTGT GTGTGTGCTA TACGCTGCCT TATATACTG CCAGGAGAAA TGCTGTCTAC 360  
 TATCCCCCGG AAAATATCCA TCGATGCGA ACGGCGGAAC TCGCGGAAA CCTGAGGCC 420  
 CCGCTCTGTC GATGTATGAG AGAAACAGCT AAAATCGCTC AGCTACTCAT CTCTGGCGCT 480  
 GTGGTTCACG GTGCGCGCAA TCGCGCGCAT GCGCAAGTCC GTTTTTCCTC TGCGCGCGGG 540  
 CCAGGGAGAG CGCGCGCGAG ACGGCCAGAT TTTGTGCACG GCAGACCGCG TTGGCTGTGG 600  
 TAACCGGTAT GAAATACGGG GAAGCGGCGA TTACCACTGG GTTTCGCTGT CAGGGGTGCC 660  
 TCGGGCGCGG GAACGCGGTT ATGGTCTATA TTACAGAATG TGTACAAAGG AGTCACGTGG 720  
 GCGGGGTGCG GCGCGGACA GCTGCTCTGT TTCTTCC 758

## (2) INFORMATION FOR SEQ ID NO:436:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 801 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1319RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:436:

GATCTTCCTG CCTTTGACC TCTTCATTAA TCTTCTCCTT TAACCTCTTT TCGGTGTCAA 60

GAATGTCGT TAGCAGTTC TCTTCTGTT TGGTTTCTT CTTGTTCCTC CTGCAAGAT 120  
 GCAGCATCGA GTTTTGCTGG ATGGGCAAGA AATTAGAATT GATATCGCCG ATCCCTACGA 180  
 5 AGAAATCGTA CGGCACAACC TTAATGAGAT TCTCGCACCA GTTCCAGACA TCACCTCTAT 240  
 COTCAATGAC TACGACCATC GACTGGTCCA TCGGGAACAG ACGCTCGAGT GATTTTITGCG 300  
 TCAGCGAACC GTTTTCATCG CTGACAAAA TTCTATCGCC AAAGAGCTTC CCATCGGGT 360  
 10 CAATTATCTT GGCAATCTCT AGCGCATAGG CTGAGTAGC CATGGTGTAT ATATGCAGCT 420  
 CGAAATCGCG CGGATCTTC GCAAGAATT CCTTCAGGCC TGGCGTAAT TTCACGTAG 480  
 TACCAACACT TGGCGGTG GTTGGCTTTT GGGCCCCATA TAGAACGGCG GCAGCACAGC 540  
 15 TCTCCATCC GANAGANAAA AACTGNCAT CCTTAGCGCC CGTATTGGG GTTTGTITNG 600  
 GTTCCCTTTG ACCACTCCCC CATGGTGGT TCACACCGC NATNGATTN CGTCTGTGT 660  
 CAATTTTACC CCCAGCATNG CTGGCGNNGN TCCNNCAAC TTIGACTGN CCGTGACCA 720  
 20 AAATCCAACT TCGNITGGAC CGATTGTGT TTTTNTTTG AAACGNVANT TCCINGTGN 780  
 CTGGGNGCC CTTTTCGN A 801

## (2) INFORMATION FOR SEQ ID NO:437:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 834 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 30 (ii) MOLECULE TYPE: DNA (genomic)  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1319UP  
 35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:437:

GATCATCGGC ATGCTGGAGA ACCCAATTTT CCAGTCTCAG ATGAACGAAA TGCTCAACAA 60  
 CCGCAGATG ATGACTTCT TGATACAGCA GCACCGCAC CTGCAGGCAA TGGGCGCGC 120  
 40 GCGCGCGAA ATGCTCCAGA GCGCTTTT CCGCAGATG CTCACCAACC CGACATCAT 180  
 TCGCAGATG TCTGCTGC AGATGGCAT GGGCGTGG GCGCGGAGC AGGGCACGA 240  
 CTTTCAGGC CCGGCTCG CCGCACACC CGAGCGGC GCGCTGGC CGAACCGTT 300  
 45 GGTGGCATC CTAGGCTTC AGCGCGGC TCTAACCG CTGGCGGTG CCGCGCAGA 360  
 CCGCGGCTT GCAATGCCC CTCTAGACC GGTATGCTC TCTTCTCT TGGCGCTGG 420  
 GCGTGGCAG CCTGCGGCC GCGAATAAC AGGCTNCC AAGNANGN TANCAACAA 480  
 50 ANATTCGCC ANGTNAATN AATNGGCG TCTCAACTT GAANAANAT TTCCGGCTT 540  
 NAAGCGNG AAGATGTTT NTCNGGCG CCGTNTATT CTTNTTAA GGAANATN 600  
 55 TAGGTNGA NTNTCTCT NONGGGCG NGTGGCGT TTTNTTAT TCCNTNT 660

TTGTTTCTC CMTCTGNTT TGCNACCCCA CNCAATTTT TTINGGTGGG GGCTNCCNIN 720  
 TTTTCATNNN TTNCNANNAC GACGNTAATT ATANTTGINT ATCAAGTCTT NPTTNTTTTT 780  
 5 NCCNACNGN TTGGGTGGCC CCTTTANNT GAGGNTGGTG TAGGGAAAGA AAAT 834

(2) INFORMATION FOR SEQ ID NO:438:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1320RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:438:

GATCTTTTCA AGAAGTTTAA CAAAGACTTT AAAGCTAGCA TTGATAAAGT ACTCAAGAAA 60  
 CCTAACAGAG CGGAGATGTA TGATGCTCTT TTGTCATTA ACGTCCATTC TAACAATATC 120  
 25 ACCTCGGGAT TGAATAGAGC TATCTCCACT GGTAAATGGT CGTTAAAGAG ATTTAAGATG  
 GAACGTGCTG GTGTTACCCA TGCTTGAGT AGGCTTTCIT ATATTCTGTC TCTGGGTATG 240  
 ATGACAAGAA TTCTCTGCA GTTCGAAAAA TCTAGAAAGG TTCTGCTCC TAGAGCTTTG 300  
 30 CAACCTGCG AGTTGGTAT GTGTGTACA TCGATAAGC CGGAAGGTGA GGCCTGTGCT  
 TGGTTAAGAA CTTAGCATG ATGACACATA TTACCAAGGA TGATGAAGAG GAGCCCAATA 420  
 AGAATCTTTC CTACTTACTG GCGTTGAG AACATTACAT TGGCTAANA ANGGCNCCT 480  
 35 TOCTTTTAAA TNNNGGGGT TTTATTTGGA AAGGTEACTA CCCCCGTC ACAAATCCC  
 CCCCCGTTT TTGTTCCCC TTTTAACTN TANAAAAAC GNTAAATTT CCNATTTCT 600  
 TTTCNNNIN TCCAAANN CTAACAACTT NTCTTTTGC AAGGAGGGG GAAATTNIN 660  
 40 ACCCTTTNT TTNNNGGA GAGAATTTT GTCCCGNGG CCCCCAAAA TTTTAAAGG  
 GAANTCNITA NATTCNNAN NGGGNTNNT AATTTTGGN TTTTANAAA AAANCCCCC 780  
 CCNCCGNAA A 791

(2) INFORMATION FOR SEQ ID NO:439:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1320UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:439:

	GATCATGAGG GAATCCTTGG AAGAGGATGA CAAGAAGTCC GACGATGAAG GTGACCTGTC	60
5	TATTCAGAT GGGCCTTCCT CTGAGGAGGA TTAGGCATAT AATGGGTCTT TTATATGTAC	120
	ATTAAATTAAC ATTCCGCTTT AGCTTTTTTTA CTCTTATCCT TACGGTAGCT CACCCATATC	180
	TGTAGCCCTG CTCAGTTATC ACTAAAACGA GTGCCAGGCC CTAGTACTAT ATAATCCCGA	240
10	GTTCGAGCTG AGAAACAATG TCTGATTCCG CTGGTMTGCA TGGGAGTACC GCGATGCAAG	300
	ATCCAGATAG CACTTTAGTC GAGGAAAGGT TGGCGCTAC GCCAAAAGTT ATCAACAAGG	360
	TCAGCAAGAA AGGTTCAAGC CCGCTTTCAG TGTTTAAGTT TAAAGAGGGG AGCTTATCCT	420
15	GCCNAAANTG CGCCAGGTIN CNTGAATTIN GGAGAAAAA NUGGTTTTT TCCGAAAAG	480
	CGCCCNCTGA NCCCAAAATT TATTNGGGAC CCNCTACACC NCGAGAAATT TNNTTNAAGN	540
	GGGCCCTTTA AAATNCCCAA TNNCTTCAAA ANNATTGAG GNGGAAAGAC ANTTTNTTIN	600
20	AATTNCGGG GGGGTNTTTT TTGCCGCCCC GGNCTCCTC CCNCTCCAC NANTTTNAAA	660
	NATAGGAGGA ANGGNGGNG GCCANATTTC CACCTTTCNN AGTINGANNG CCNGNAAANA	720
	GNNTGATGN CCACCAATNC GGGTNGNGA AAANANINCN NACTGCTTGT ACACAAATTT	780
25	TTTTGTCCCG CNGGTGACAG AAAAAAGAN GGATTTTTTN ACAACCNAA AAANAAAAA	840
	AAAA	844

## (2) INFORMATION FOR SEQ ID NO:440:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 788 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1321RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:440:

	GATCACTGCT TTCTCTGACT TTCTATGCTC GACGGTCTG TTCTTCAGCC GGGAGGOGAT	60
45	ACGGCTGGCG ACGCTGCCA TCAAGACGGG CGGGGACGGC GGGGCGGGG GCGAGATGTC	120
	TGCGGAGCTG CAGACGGCGG TGAATTTTGC AAACATAAGG ATGTGCATCG GGGGCGGGCT	180
	GGCGGTGGTG CTGGCGGTGT GGCAGTACTC GAACCTCAAC AGCTACTTCA CGCAGCTGCC	240
50	GTTCTTCTCG TGGTGATCT ACCTTGTGCT GCTGTGATC CTGGCGGAGC TCGGAGOGA	300
	GCGCTGTAC GTGGTGAAC AGTTGATGCT GAACTACGGC AAGCGGTGCG AGTTGAGGG	360
	TGCGGCGGTA GCAGCGTCTT GCTTGTGAA CTTCGGGTG ATCTACTGCT ACCGAACTG	420
55	GTTGAATGGG CGCGGCAGAC GTGCAGACA GCTACAGCCA GGAGGCATCG CGGTGCTTGC	480

TTTTNCOCOG GGGAGGGTIG CCCCCNCCAA AACTTTNOCCT GGGCCGNICT ACITGAANAA 540  
 CTTCGCNCTC TGGGCCCCCA AAAACTTTTTT TCCTTTTNTT TNACAAGTTC CTITTCOCGN 600  
 NATTTTTTAC GGGNTTNTTC CCCCCGNAAT TINTTGGCCC TTCCNAAGGT TTTTTCOCOC 660  
 TMTTNTTTTA NCCCNOCCTN NCAAGGGGGA AANNTTTTIN CTTCOCOCNC CCCCCGAGAA 720  
 ANNGGGGANT TTCTTTTTTT TTAAAANGGN NCCCCCCCCG ANGNNTTINN CCCCCNAGAA 780  
 NATTTTTT 788

## (2) INFORMATION FOR SEQ ID NO:441:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 815 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1321UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:441:

GATCGAATTC GATTTCCTTT CGTGCAAGG AAACAGAGCC TTGTTAAAG TGGGATACGA 60  
 AGACCGTGCC CAATTTTGGT CGGCCCTTTC TACATACATC TCAAGCGAGG AACTTATCGG 120  
 CGTGCCATTA GTGGTCATA TATTGCAAGA ATGTACAAAG TTAGAGAGGA TGAAGGTGG 180  
 GGAGGACGAT GAGCTATGGT TCAAAAGGAG TTGGGAGGAA NAAGTANOGG ATTCCAGTTG 240  
 TAATTAGCTA CAAAAGCGGA ACGGGTCACA CTAAAATTC ATGGCGTAAC TTTTCCACTG 300  
 AAAGAAGCCA CATGAAGCTT TTATATCTTC TGGGGCTCCT CTGGGACGCT TACACGTCCA 360  
 GAACGTGTTT CAAAATTC TUGACGTTT CGAGGTTTA AGAAOCGATC GGTCTOOGTG 420  
 CTTCAGAGA GGTGCATTG ATGGGGCGAA AAATGGTTTT TCAACCGCCG AGGGTGGTTG 480  
 TTCAGGAGCT TTGTTAGTTC GAAGTTGGAG CCGCATTCOA TTGATTGCC CTTCCTCTTC 540  
 CTCCCTNGCA CTGCCCCCTT GCTGCTATGT TTAATTACTA NAAGCACCGA NCCACACTTA 600  
 TCTGGTTTTT TTTTCTATC CTGANACTCC CTGAAATTAT TGCTCTCTTT TGACTTTCCC 660  
 CCTGTTCAC GTTNGTACA CMTTGTCTT GAATATCTTT CCTTTCGGAA GCACCATNT 720  
 TTATAATTAG TCCTATTGAC CCCCCCACC TGGTTTTGT TTTCTTCCA ACANGTTCTC 780  
 TTTCCACTIN AGNTTTGTAT ACNGAATGTC NACCC 815

## (2) INFORMATION FOR SEQ ID NO:442:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1322RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:442:

```

10  GATCCAGGAA ATAGTACAAC GCCCTTGGAT AATGCCAGGG ATTCTGACT CCTAACGAA 60
    AGCCTCTCCT CTCTAATTT CTTATTAAAG TAGTTAGCTG CAAACTGTAA CAAATCCCC 120
    GCGCGTCTTT GCTCCACTTC TTTCTGGAAT GGTCCAGTA GGTCAAGGTG TTCTGTGAT 180
15  AAAACCATCG AGTAGTTTGT TGTGTGATGC AGAAAACCTG CCTATAGCGG AACCAAAATG 240
    CTCTAGTAGT GTGAGGACAC CGTTTATOC AGTTTGCTAA GCAGCTGCC TAGGTTAGG 300
    AGAGTAGAAA GTGTCATTGG ACCCGAATTT CCTTCTGCGC GCGGCGAAG ACGTTAAATG 360
20  TGATTCAGCT GATCAGGCTA CTGGGGCTAA CTACCAATTG AGACAGGCTA GTGTGCGAAG 420
    CCTGAGGAGG TCTCCGAAAA GCTTGATGTG AGGATAGTGC TGTTCAGTTA TCTGTATGC 480
    CTGTATTGAT CTGTCCGTGA GACCTCGAGC TCTTCTCGC TCAATGCCCC GCGCTAGAG 540
25  AGCTAGGTTG ACTCCGAGTT CTACAAAATT TCNAAACNOC TTGAAAATTC NCAACATTGT 600
    TMTGACCAT CNANTTCCCC NCCITUGGAA NNAAGCCCTC CACCTTTTT TTAGGTTGCT 660
    NACTTNCCN CTGAAAAAAC GTTCAATTTA CCGTNTNTA CNGGCAGGA AACCCCCCAN 720
30  TCTTTTTTCC AINAACGGT ANCINAAGA ATTITCNGC CATNGGTTT ANG 773

```

(2) INFORMATION FOR SEQ ID NO:443:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 817 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1322UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:443:

```

45  GATCTTCACA ATGACGCCA CGTCCATGC GATGTTCCG CCGACTGCC TCACTGTGAG 60
    ATATTGCTAC GGAGAGAGCC GGTACGTGTT GATCATGAAG TTGGGCACAT CCTGTACGC 120
50  TTGGGCGCTC TTGAACGCCA CCGAGTGTT GAAAAAGTGC GGCAACGCC GACGCTCCAG 180
    CTCATGGATC TCGTTGAAT GGAACCAAGA GGCAACGAC GGCAAGATCA CCGGGTGGC 240
    CTGCTTGGCT AAGAAGCGG CCGCCTGTG CTCGAATTT TCGGCTCCT GCTCGTAATC 300
55  GATCTGGGT TGTCTCTCT GCTGCTCTG CTGTTGCAGA TGTGGCAGA CAGGTACAGA 360

```



TGGATTCACG CTGCCCCGTGT TCCCCGACGA AAGCGTTCCA TCGCCAGCGT TGTCAATATT 420  
 GCCATCCTGG ACATCCATTG GCTCGCTCAT CGTTATAAAG AGTATGCCAC GCTACTTTCC 480  
 5 CCGTTTAATA GCTTTCAAAC GCGTCTTGGC TGTGCTACCC CGCTTAANTC CACACTGGTT 540  
 TNIGTTTTCG NCCATACCCA AANTTTTAAA ACCCATTTTT CCACATCAGC CCCATATCCT 600  
 CCGTTTGGTN GNGGAAATTT GAAACCCANC CCTCGCCTGG CGGAAAANNC TNCATTATGA 660  
 10 CCCCCCTCCC NCTTTTCAAT CGGTCCCTTT NACCAAGNNT TTAGCCCCCC GGNANANGAC 720  
 CAATTNGGTC CTTCGGTCNC TTTCCTTNT TAAATGAAA AAGGTINCCC TTTGAAAATT 780  
 AACCCNGCCC NONTCCCCC GANAAATGTT TTTTGT 817

## (2) INFORMATION FOR SEQ ID NO:444:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 759 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: FAG1323RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:444:

30 GATCAGTTTG CAGGACCAT GAGCAGGGCG GCGACGAAA GCAGCTCTCC TTGTTACACC 60  
 TCGTGCAGG GGTCAACAC GCGCTGCAG GCGAGGAGC ACGAGGAAGA GGAAGATCGG 120  
 GCACCGTTTT ACATCCATCC AGATTGAGG ACATCAGAC TCTACTTTGA GAAGATGATC 180  
 35 GATGAAGAGC CCTCCCGGC GCTGTTAAG CCGGTGTCT ACATTAATCC GTATGGAGAG 240  
 GAAATTTTCC CTGTGGGAA CTCTGGTCT ATCCACCAGC TGAAGCGATG CGATATGCTT 300  
 GTGTATTCCA TCGGTCTTT AATTACCACC TATTGCCATG GTGATCCTCC GGTACTTGGC 360  
 40 AGGTGGTCGT CCAAGGGAAG ATGAAAAAAT GCTACTGGTC NCCCAATCA ATNCCNAACC 420  
 TCCGATTAGG GGGGGGGGNT TTTTTTTTTA ATTITAACC CCTTTGGGG TGACCCGNNC 480  
 NAAAAAAG GGGCTTTGN NNTTTTTTTT TNGNCCCGC CNOCTNPTCG GNAGMTTTT 540  
 45 TTTCTEGNG GGGGGCCCC CCNNCGGAA AATNTNINC AAAAGGAAGN ATTNCCCN 600  
 NANGGGGANT TTTTNTTA NNAATINAA AAAAAATTN TTCAATCCC NNAATTNN 660  
 NTTTTNNNN CTNTNCGN TTGNAANT NACCCCGNC NANAATTIN NTTTTTCCC 720  
 50 CCCCCCCCCC CCGGGNNNN TNCMTTTTT TTNNGATN 759

## (2) INFORMATION FOR SEQ ID NO:445:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 834 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1323UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:445:

```

10  GATCCGTTTT TCCAAATATTT CACCGTCTTG TAAATCAACA GTTGAAAAAC AATGGCGTGC      60
    TTAATUGACG AACCGAGCAC AACCGCAAT AGGCTTUGAA GCGTTCCAG AGGTGATATC      120
    GCAAAGTTGC TCGAGCACTA GAACGGACTG GGTCAATTATA TAGGTGGTAG TAAGAAGTGG      180
15  GTAGAAGGAA GGGGACTATG GTACAGCGCG GGGTGGAGG CAGGGAGGCC GCAGTGGGTG      240
    CCGCTCATGG GCATGGGCAT ATCGCGCAGT TGTACGAGTT GGTTTACAAC CGGGGGCGCG      300
    TGGGGACGTA GACGTTTACT GCGGGACCTG CCGCGGCAAG GGACGCTTGA CCGGAGCAAT      360
20  GTTGIGTGCA CGCTAGTGGG GCTGTACCAC TCGATTCCGG GCGACATCCC GCTGATTAAG      420
    ACCGATTCNA TCGCCGGTGG GTGTNTCTGA NCAAGTTGG ACCCGGAAC CTGATTGTTT      480
    TGTGGCNAGA ACACATNCCC TTGTTGGTGG ACCCACCGA NAATTAAAC GCGCCNOCOA      540
25  GACNAGCCGC CCTCCCCCN GNGCGTTTGG GTTNNGCCA TNGTCCGGA CNTCCAAGAA      600
    NTTTACTNGC ACCGCGGNG GCACCGCGN CGGGGCACTT NITTCAAGNC CNTTCCCCC      660
    CNTGGGGGGG NCCCCCCTT TGAAAAANG TGGGGGGAC CGGTTGGGT CCNITCCCC      720
30  CCATTCNATT TTNTTTANA NANNACCAAC CGGCTCCCT TNNCCCCACN CAAANNNGT      780
    TNGTAACT NCCCNITAT TCNCCCCC CGNCCNTAT TCNACCCN CNGT      834

```

(2) INFORMATION FOR SEQ ID NO:446:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 785 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1324RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:446:

```

50  GATCTACCG GGATGCAAG CCGATACAAG TATATCAGG ACCTTGCCG GGAATGGGA      60
    CATAAAATTG AAGGACCAGA TCACAATTG TGTTCCTTA TCATAGCCAA GATATATATA      120
    TATATCTGGG ATAATTACAG CGCTTGGTAT GTATACCTCC TACATACAAA TACTTACATA      180
    CACATAAATA TAATACAGCT ACTTGTAAGG CGAGAAAGT TACTTCTGA GAGCCATTAG      240
55  AGACGCAACG AATGTCAAAA TCAACCTCG GCGGACTTCA TTGATATCTT CAGGAACCAA      300

```

CCAGATTAAA GCACCAAGTT TTCTGGGAT AGAAATTGCC AATTTAGCGT TTGCATACTT 360  
 CTCCTCTCTT GTTAGGGCCG GGAGTAACCA AGTCATAATC CACATATCTT GGAGCTAATC 420  
 5 CGTTCAATAC ATCCAATAGG AAATGGGCAT TGCTCAACGA AGCATCCCTG GAAAGACATA 480  
 TCTGCTCGA TTGGCCACCC TTGGCACTTG CCTTGGCCCC ACTTAGATC TGACATCTGA 540  
 ATNCTCTACC AAACAAACTN TGAGGANATN TGTITGACAA GTTTTCTGCT CCTCACTGCC 600  
 10 AACTAAACT AAGGTCACAC CTNTTTGCTT CCCCAATTCG AACCCCTTNN GCCCCCCCCA 660  
 AAAAACTTNA ATTCCCAAAT TCANNCCCTN TTTGGTTTCC CCCCCAATNA NCTNNAATTT 720  
 CNCCCCNTNN CTGNCCTCG NNGAAACCCN TGAAATAACC CCCCAGATAC CTNCTTGGC 780  
 15 CGAAC 785

## (2) INFORMATION FOR SEQ ID NO:447:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 866 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1324UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:447:

GATCTTAAAG AGGCTCAGTA TGCAGAGGCA GTTTCAGAA GAAGACAGGC TGGCTTCTGA 60  
 AATCCCTCAG CTCCTGCCCT GGAAGAGTCC GCAGATGAAG CAACACACAC AACAGGGCCA 120  
 35 GCAAAGCCCG CTGGGGGGGC CGGCTGCAT CCTGGGTGCC CCTTATGAAC CGAGCAGGGC 180  
 GTGTCTCACT GTTCAGGGCC AAAAGGGCGA CTAAGACTAC TCCGTGTCA ATGAGAGCAG 240  
 GCTCTCACT GAGAGCAAGA TAGACCACTA CTTGAAGAC GAGGCCGCA ACGACAAAG 300  
 40 CGTATTCAC CGGACCGTC CCCACGAGA CAGCTACCG CCGACTTGC AGCGCTCTG 360  
 CTGGACAGC TGGAGCAAG GAAGGAGAG CCCCCGGCG CGCAGAGGC GCGTTGAGA 420  
 ACGCCCCGT TGGTGGCTN AGCATCCCC CGANATNCT CCCAGAAAA ANNTTTTGA 480  
 45 ACACGCCCC CGCCCCCCC CCNCAGAAC TCCNTTAC GAACNTTNA AGAAGAATNT 540  
 TNCANTTTG CGNCCCTNCT TGGANAATG TGGCCNCT TNACNAAAG CTAGGTTGNC 600  
 GCGCGAAAA NCACTTTGT TNACCGCATN CTCGCCGAA AGANAGANAG NTCCCCNCAC 660  
 50 TTTTNGCAA TTTTNTCCC CGGANAAG GTTCCCGTIN ANCGANGG NGGCGANNA 720  
 ANAACCCTAC NCANTTTNAA CATTCCCCC CTTTNTTNC AAAAAAGANA ATGNTTTT 780  
 CACCTGACA ANTGATNCT TTTNTGAAG GNGENAGTAC CCCCCGCTG CTTNTCTOC 840  
 55 CCTTAGANCT NCAATTTTGT TTTNT 866

## (2) INFORMATION FOR SEQ ID NO:448:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1325RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:448:

```

GATCAATCGG GGAGTGCCAA AAAGCGACTC AAGGTGAACG TGTTTCAGCA CTGTTTCATGA      60
TGGGGGGTGG TCATTTTGGC GCAGCCATCG TATCTCACCA ACCCATAGAT ATCAGTGGCA      120
ATGCCAAGAG GCATGGAGAA TCGTTACAGG AACAGGCCGT GCACTTTCTT GAGCACAAAA      180
CGTTTCACAG ATACACCACG AGGCGGAAAC AAGGAGGTTT ACAATCGGTT ATGGATAACG      240
CCAAGGGGAA AGCAAATTCC GCAGGCTCTA CGCTACGTAG ATACAATGAG GCGGCATTAC      300
GGAATGACGT TCAGGACCTG TTAAAGAAAT GGAGGCCATA CTTGGAACGC TGCGAACACA      360
TATTTATTAG GGCCAAAAAT GTTGGGACA GGAGGGTATT CTTTACGGAA AATACCCCAT      420
TGACCAAGGT TAGACCCGAG GATTGGGACA TTCCCATTC AACCCTAGT ACCTACCACA      480
AATGAGCTAA GGCGAGCATG GTGGGAGATA ACATACTTGA AGAAGACATT GAAGCCCAGC      540
CATCACATCG GAGCGGCATA CTCTTAAAGC GACAATGATC CACTGCCAAT AAGCGACGTT      600
GTACGCAACT TAACCCCGNG GNAACCTTA NCAGGAACGG CTCTTTTCTT TGGATTCTAG      660
GCCCCNNNTT ATTCCCTNTT CNAAANNTT NPTCCCCAA CTCTTTTCTT AACCCCCGGA      720
AAAANNVTIN AAACCCNCTC CCCCCCCA                                     749

```

## (2) INFORMATION FOR SEQ ID NO:449:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 801 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1325UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:449:

```

GATGTGCGCA TGCTGTATGT GGTATTTTGA TGGGGGGCGG GGTGGGAGTG CCAGCTGGAC      60
TACGAAATCA AGGACGAACG TGAATTTTCA GCGGCCCTAG ATACTGTCAA GGGTGGGCTA      120

```

5  
 10  
 15  
 20

```

GCCCCCGAAA AGAAGTGGCC CTGCGGCAGC ACCGTGCAGC CTGGGCTGG AGCAGGCGGG 180
AACAAACAGC CGACACGGGT ACCCTCTGTCC AAGCTCTTTG TAGGTGGGAA AAACACCAAG 240
TTCAAGCCAG TGATGGGCTC TGGGATGCC GCTATGGGG CAGGCAGTGC CGCTTGGGGC 300
CGCCACTGTG CGCTATTGCA TAAGACACAG ATAGATGACC CACTGGTCAT GAACAAAGCC 360
GGTGAAGAGC AAGTGAAGT TGTAGTCGAT CCTATTTTGT CAAAAAGCT ACGCCAGCAT 420
CAGAGAACAG GTGTGAATT CATGTATGAC TGGTCCGGG GGCTCGCAAG GTCCGAGAAG 480
GACGATGATA GAACAGTGAT GATCTTGAA TATGATAGTG ATGTCAAGGG TTGTCTGTTG 540
GCGAAGAGA TGGGATTAGG GAAAACATGC ATGACGATTG CTCTGATCTG GACGCTACTG 600
AAGCAGCATC OCCAGGCCAT CGTCTGTTC DATGCTCCG AATTGGGGGG TTGGTTTTC 660
AGGGTTTTTT GCCANAATT CTCTGTTTAT GCGGGGTGA CTCTGATTGG CGACTGGGAA 720
AANGATTTCN CCNATNGGNN GCGGANGAAT AAATTGGANC CTNGAANCN ATTGCNAANT 780
ACCCCCCAA ANAAAAATG N 801
  
```

## (2) INFORMATION FOR SEQ ID NO:450:

25

```

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 774 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear
  
```

(ii) MOLECULE TYPE: DNA (genomic)

30

```

(vi) ORIGINAL SOURCE:
    (A) ORGANISM: PAG1326RP
  
```

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:450:

35  
 40  
 45  
 50  
 55

```

GATCGAATTA AGTCAGATTT GATTGCGATG GCTACTAAGC AACGTGCATT GTCAGACGGA 60
CCGAATCAGG TACACATTGA AACTGCTGAG TGGCTAGTGC AGACAATCAT AAATGAAAGT 120
TGTGGCTGGA GCAAGGGGAC TGGATGGCT TAACTTTCTC AAAACACTCA TGGGTGGTCA 180
AAAATCAATC TATTCAATAT ATAGTATATC AAAACATTAA ACCAAACTAG GCGCCAGAA 240
TATTGCCAAA ACATTGCACT GGAGTATTAG TATCCAGAGA AGTAGCAATG GCGGGCTAGC 300
TGGTTACGTG GCATTCACGG ATGACTTATA GAAGCCCAAT AATCATCTTT TAGTGACAGT 360
AAGATCAGAC ATTAAATAAC GTATCGAATT TTAGGGGAGA AGTCATCACA CTTGCATTAG 420
TATACCGCAA TAATTCCGGG ACCACATCAG TTAATACTGG GCATGGTTTC TAAAAAGCA 480
AACTGGGTTT ACATTCAGTG TGTTTTGCAA CATAGATGTC TCTCTCATG CTGCTTCTCG 540
GTGAATAAC CATGCTTCAG TAGGCACGT TCCAGTATT TGGTAATTAG TTGCCAGACT 600
CCTTTATAAA GGATGACCCG AATATGANCT TCATTAACA TTGGGNGGAA AANANATTG 660
GCANCGTAN ATATTTTCTT GCAATTGAN ACGTTCTINT GAACCCCTNC TTGGGGNCCN 720
  
```

GCTTCCAAA AACGAANTTC CCCGTNGNT NTTTTATAGG TNCNAAGAAA AANA

774

(2) INFORMATION FOR SEQ ID NO:451:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 779 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1326UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:451:

GATCAACAAG CGGTTCCGCG AGCTGCCGGA GAACTGCGC CTCACGGGG TGACGCGAG	60
CGGCAAGCGG CGGCTGTTTG TGTGCACAC GTGCACGCG CGGTTTGCGC GGCAGGAGCA	120
CCTGATCCGC CACAAGCGGT CGCACACGAA CGAGAAGCG TATATCTGGG GGATCTGGA	180
CCGGGGGTTT AGCGGGGGG AACTGCTGCT GGGGCACCG CACAAGCTGC AGGGGGGAG	240
CTGCGGGGAC GCGCTGCTGA AGAAGGGCTC GCGCGCGGG CAGCGGCTGA GCGGGGGGT	300
GCGGGGGGCG AAGAGCGGG AGGGGCTGCG GCGCGGGGC AAGGCACGGC GCGGGCTGTC	360
GTCTCTGCG CAGTCCGGG AGAGCTACGC GTGGTGCGG CCGGCGAGG CCGGGGGGG	420
CGAAGAAGGT GCAGTTCTCG ACCGCGCAGC TGCTGCGGT GGAAGTGAAG CAGGAGCGGT	480
CGACGTTAC GCGCTGGAG GCGACGGTG GTTGCAGGAC GTGACAGGC TGTCCGCGT	540
GGACGGAGC CGGAGGAGG GAGCTGCAGC CCGGCTGCG GCTGTCTGCG CAGGCCACGC	600
ACACGCGGTC GCTGTTTGG CACCTTTCC NGTTGGCGT CTTACGGGA AACTGCTTGN	660
CGCTTTTGGC CCGAATTGCA GGTGGAAGG GCTTNCCTG CGNGGNCN CCGCCCCCCC	720
CGCATCCCC CCGGNNCCC AAAATTTCAA GTTAACCAA NAACATCCC TTCTGCTT	779

(2) INFORMATION FOR SEQ ID NO:452:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 763 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1327RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:452:

GATCCAAAGG TGTGGAGTAT GCTAAACGAG CGTTCATGC CAGGAACAAC GTATTATCTC	60
GTGTAACGCT GTCTCGAGC CTGAGGCCAA ATCTGACCGT TTTTGTGCTA GAGCATACCC	120

5 AAAAAGAAAC ATCTTGATGC GCTAAACAAC ATGACAATGA TTAGGGGAG GATGCCTTTC 180  
 ATGTCTTAAA TTATGCGCTC GAGGTCCAG TGGTGCGGC ATGTAGTCTT GCGGGCGAT 240  
 TATATTCGGG CGTAGCTGTG GTGAAACATC GCGCTAATT GACCGATAAG CAGCTGTGTA 300  
 CCTTATTTTC ACTATTTCTT TTCACATACC AAGACTAAG GTTGATTCCA AGAGGTACTG 360  
 10 ACTGACCCAG TGGACAGGT AGTTATGGA GTAAGTGGC AATGTCTAC GGGTCTCGG 420  
 GGAGGGGAGG AATGGGCTGC TCAAGGCGA CGACGCGG GCTGAGAGG GAGCTCAACA 480  
 TCCCCAAGGA CGTGGGAGC GGCATGAGG AGTCGCTGTC GTACGACTTC CTTAATGTGC 540  
 15 CTGGGGGGGA CGAGCAGCG AGCCCATGG GACGCGAGC ACAGGACAG CTGAGGACGG 600  
 CCGCGACGGA ACTGAAAAC CAAACCGGG AANGGCGCN AGGGGNGG ANCAANGNG 660  
 GAAAGGGGGA ANTTTTCGGA NTACCTCTGT TGGCCNCCC CCGGGTTC GANTTTGGGT 720  
 20 TGNCAAAATC CCTCTCTAC TTNCAAACT NCTGAGTNA AGT 763

## (2) INFORMATION FOR SEQ ID NO:453:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 794 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1327UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:453:

35 GATCGGAGGC GTGCTGGAG CGTCTCTTG TTCTGTCTCT GCTTGGCTAC GCGCGACTTG 60  
 GCAGCGCGG CGCTCTGAG CGTCTCATC TTGCTGCTG CTAATTGCAT GGTTCCTATC 120  
 GTCAGGCTC AGCAACTGG ACAACAGCAG CAGCAACGG TTGCATTTAT ATAGTGTCTA 180  
 40 CCTGTACGAT AGGGGACTGA TCGCTCTGG ATGGTATCT ATCTCATTC GGAAGGTCTT 240  
 CGAAAGGAA AGCGCCAGTC GCTGTGAGC GACAATAGG AACACAAATG ACACAATAGT 300  
 GCGGTGCGC GACCGATCC CTGCATGAG ACCGAATGCT CGAGCAGATT CTGTGCGGG 360  
 45 CGTCAGCGG TAGCGCGCT CGTCTGTGG CGAGCGCGG ATATCGCATG GCACCGGATG 420  
 GCGATGTCT CCGCGCTGG GATTAATCTA GCTCTCGGA GATATGCTTC TGTAGGAGGA 480  
 AGAGGGGTA GAGAGAAGG CTGGACGGG GCTTGGGGG CTCTGCAACG TTGCGGGGGC 540  
 50 GTGCGCGCT AGCGGGGGC ACACCGGGA AATNCGNEN GANCCNGTN CCTCCNTTC 600  
 CNGCCCCAA ACTTGCGGGC NTNCCNOC CGAATNCAA GGNNGNCCC NAAATCCTNA 660  
 ACCCCCCGA GGAAAGNNTT GGCCTNTGA NCAANNACN CGGTTNAAA NTCCCGGGG 720  
 55 TTTGNGGCC CGAAAANGG GGATAACCN GGCNACNAC TTTTGAATC GCGTTTNTT 780

TTTCCCCCAN ACNT

794

## (2) INFORMATION FOR SEQ ID NO:454:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 757 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1328FP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:454:

GATCTCTTCT GCAAGTTTCT TTATCGGAG CCCAGGCTCT GGATTTCCTT TCTCAACACC 60  
 AATGGTATTG TCTTCGATAT CAGAGAAAGA GCGCTTCGAA TTTTGGGAC CACCATATGG 120  
 ACCTCTTTCA TTATTTTGGT TATTTTCTCC ATCACTTTTG CTTGCCAAAG AAGAATCCAT 180  
 CGCAACCAAT ACATCGAATT CTTCAATTAT AGCTTCTCCA CCGTTGTAG TATTTGTTT 240  
 ACCATTATTA TCGTGTGCT TATTGATTGC ATCAGGGCCC ACAGGGCTCA TTTGTATCAT 300  
 GCTAGATGTA TATGGGACAT AATCCACCTT TTCCAACAGA GGACCGAATC GCTCAACCAA 360  
 GTATTGATTT AAAACCAGGA AGTCTTTTGT ACTGACCTCG GCATATTCTT GATCTTGCCC 420  
 GAAACGTGCC GAAATTACCT TAAATAAGTC GAGCAAGCAT GAGTTGGCCA TGTTATCAAA 480  
 GTAAAGATTT TCTGTAGCA GCTGACAAAT TGGATCAAAA AGATCTTAGA TATGAGATAG 540  
 TTGTGATAAA ATTCAATCATT TACAGCCAAG ATACCCCTGA TACCCGAATC GCAGCCAGCC 600  
 TTAACGTGAT AATATGGATG GTTCCATTAG TTCCCAATAG TCAATAGATG CCATTTTCCA 660  
 ATATTAACCC CCGTTGACAG CATAATATCA GTTCCNTGTT NNATATATCC CCCCATTTTA 720  
 CCAAACCCGC NCGTTGATT NCCCNCTC CACCCCT 757

## (2) INFORMATION FOR SEQ ID NO:455:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 794 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1328UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:455:

GATCGGAGGT ACATAAGTGC TCTACCGACC AACCCCGCTC TCGATGCATC AACCAATGGA 60



GTTGAAACAG TTGACTGGCG AGCAGGCGCG CCGACTAGAT GCGGAACCTCA TGGGCCCCAGA 120  
 CGTTGGCTAC TCGCTGCATC AATTGATGGA CTTAGCAAGT CTTCGGCTCG CCCAAGTGGT 180  
 5 CGTGGCCCAT TGGGGGCGCG CACAGGCGAA GAAAAAGGTG CTTGTGCTAT GTGGGCGCTGG 240  
 CAATAACGGC GCGGATGGCT TGGTGTCTGC ACGGCACCTG CCGCTCTTGG GCTATGACCC 300  
 TGTGGTCTAC TTGCGCGCGC TGTGGGCCAA ACAGCCCTTC TACGCACAGC TTGCCAAGCA 360  
 10 GCTACACTTC GTGGGTGTCC CAGTGTCTTC CGAGGGCGAT GACTGGGGTG CCGATCTTGA 420  
 GCCACGTGAC ACGCTGTGCG TTGTGGATGC GCTCTTTGGC TTTCTTTTTC GTCCGCCCGT 480  
 GCGCGAGCCC TTGGCTAGCA TTGTGCAGA GCTCAAACGC CATGAGGATG ACATCCCAAT 540  
 15 TGTGCTGTC GACATTCOCA GTGGTTGGGA CGTTTGACGC AGGACGCTCA CCCCTTCAGA 600  
 CTTATGCCAG TGTTGTGAIN TCTONTGAAC GCGCCCAAA AGCTGTCTCC NNCACATTG 660  
 AAACTGGTTT TTTACCNCCC ATTANTTTGG GNGNGTTTC ATCCCNAAAC CCCNGCCCGN 720  
 20 CCTCCNTGTT TTTANTCMT CCCCGTATCC TGNCCCATC CANANTGGT TTTTGANITG 780  
 CCATTCGNIN ATCT 794

## (2) INFORMATION FOR SEQ ID NO:456:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 176 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1329RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:456:

GATCCCGTAC GCGGTGCTGC ACTTGGGGTT CTTCGGCGTG GGCTTCTCGT TGGCGTTGGT 60  
 GCGGSGTAC GTGCAGTCA AGAAGGCGCG CTTGTGAGTT AAGTAGAATA TAGTCTAATG 120  
 40 CTATGCAGGG CCGCGGCGCG CCGCGCGCGC GCGGCGCGCG TCACGTGACG CGGATC 176

## (2) INFORMATION FOR SEQ ID NO:457:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 176 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1329UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:457:

GATCCCCGTC ACGTGCCCGC GCCGCGCGC GCGCGCGGC CCGCGGCCCT GCATAGCAIT 60  
 5 AGACTATATT CTACTTAACT CACAAGCCGG CCTTCTTGAA CTGCACGTAC ACCGCCACGA 120  
 ACCGCCACGA GAAGCCCGAC GCGAAGAACC CGAAGTGCAG CACCGCGTAC GGGATC 176

## (2) INFORMATION FOR SEQ ID NO:458:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 767 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1330RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:458:

GATCTTGAT TTGACATGT CAATGGTGT AGAGGACTCG ACCTCAAGCG TAATAGTTTT 60  
 25 CCTGTCAAA GTCTTCACAA AAATCTGCAT ACCTCCCTC AAGCGCAACA CCAAGTGCAA 120  
 CGTAGACTCC TTCTGGATAT TATAGTGGGA CAAAGTGGG CCATCCTCTA GTTGCTTACC 180  
 CGCAAAGATC AAGCGCTGCT GGTCTGGGG AATGCCCTCC TTGTCTTGA TCTTCGATTT 240  
 30 GACGTGTCA ATGGTGTGAG AGGACTGAC CTCAAGCGTA ATAGTTTTCC CTGTCAAAGT 300  
 CTTACAAAA ATCTGCATAC CTCCCTCAA GCGCAACACC AAGTGCAACG TAGACTCCTT 360  
 CTGGATATTA TAGTGGGACA ACGTCCGGCC ATCCTCTAGT TGCTTACCTG CAAAATCAA 420  
 35 GCGCTGCTGG TCTGGGGGAA TGCCCTCCTT GTCTTGATC TTGACTTGA CGTTGTGAT 480  
 GGTGTGAGAG GACTGACTT CGAGTGTGAT TGTCTTTCC GTCAAGGTCT TGACGAAAT 540  
 CTGCATACCA CCTCTCAAAC GCAACACCA GTGTAAAGTA GACTCCTTCT GGATATTATA 600  
 40 GTCCGACAG TTGCGGCCAT CCTCNNTTG CTTACCTGC AAAAATCAA CGCTGCTNGT 660  
 CCTGGGGGAA TGCCCTCCTT GTCCCTGATT CTTCNANTT GACATTGTCT ATGGGTNCCN 720  
 AAGANTCCNC TCAATTNTG ANTTCTTCC CGNCAGGTN TTGAANN 767

## (2) INFORMATION FOR SEQ ID NO:459:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 794 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1330UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:459:

5 GATCAGATGT TTGTGCTAG TACGTCCGA TAGTACTAA ATTACCATAT GCCCATCAGC 60  
 ATTATACTAA CTAGTGTGT TTTGCAGTAA GCGGTAAACC ACCCATTCAG CCTGTGTGTAT 120  
 CACCAGAATC CAAATGCGTT TTTGAAAAGA GGTAAATTGA GCAGTATATC GATGAGCATG 180  
 GGGTAGACCC AATCTCCAAG ACAAGCTTGA CTAAGGATGC GCTAATTGTC ATTGCCCAGA 240  
 10 CACCCACGA GTACGGGCTC GCAAACGCAG TTAAGTGGC TACGCTCAAC GCCAATTACA 300  
 GCATCCCCAA CCTTCTGTCA ACACTACAAA ACGAATGGGA TGGGTGATG CTGAGACAT 360  
 TTGAGCTGCG GAGTCAGCTG GATATGTGCA AAAAGGAGCT ATGTTCAGCG CTGTACAAGT 420  
 15 GCGAGCGGCG TATCCGGGTC GCGGCACGCG CGAAACAGGA GAATGATGAA CTCAGACACA 480  
 CGTTGACGGA GCTTGAAGGA GGCAGTGGC GGCAGGCTG CCGATGCCCC GCGCTTCCA 540  
 GCGGAATTGA TTACCCGAT GGCAGAAAG CACAAGAATA TGTGCAGCAA ACGAAAGAAA 600  
 20 GAAGGAAATG AAAGCCAGGT AGTGAAGGCA TTGTCTCTG GAACAGCGCG TCCAAAGGG 660  
 NTGGAGGTC AACCGTTTT TTGGTTACCC GTTNNMTGG TTCCGGAAAA ANAATTANCT 720  
 NNCTTTTAA CCAAAGGCA GGGCCNNMT GTGAACAAA AAGGGTTTTT GCTNCTNNAA 780  
 25 AATINGCCNC TNAC 794

## (2) INFORMATION FOR SEQ ID NO:460:

## (i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 776 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1331RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:460:

40 GGATCATCT CAGGTATTAG AGATTCTGTA TGGCACCGG CTTTTCCTTC AAGGAATTC 60  
 ATUGGAGGCG CCTCTAGAGT TGAAACGAGT TTATTATACT CAGGCATTC TACAAGCATA 120  
 45 TAATCAATAG CCGCAGGCA ACTCTGAAGA TGATCTAAG AAGGAGCATC TGCTTTTCT 180  
 CGTAGAACAT TGAGAGCGGT TGCTCTATA ACTTCATGCT TATAAGTGA AGCACTCGAA 240  
 ATAACATGTG ATAAAGGTGG AGAGTTGGC AATGTGTCA AAGCTTCTAA TTCTGAAAG 300  
 50 GAAATTAGTG CATACCCAGC AGCTGCAGCT TTATCTTCA AATGATGAG AGAAGGTGAT 360  
 TGGCTACTG TTCTCAAATC CAGAAGAAG TTGAATCAA GGATTCCAA GTTCTTTCA 420  
 GATGCATGTT TCTTGAGGAA GCCTTCATCT GGGCTCTCG TATATCTGCT TCAACTCATC 480  
 55 CATAGTAATC AGCAGAAATG ACAATCCATA TATGGTCTT GCTTTGTTT TGTAGTTAGT 540

CGATGGCTGG ATTTTCCCAT GGTAGAAAGA AGAATATCGT GCTCTTTCTT TTCAACAAC 600  
 AAATATCATA TGCCCTTGGC TTTCTCTGTC CAAAATTCCA AAATTAGANA TTCTINATCC 660  
 5 CCTTTAATAN TTCCACATGT TCCCAATTCC TCCCAINANA TNACTGICTA ACTGTTTGTT 720  
 GGNACCCAA AAANATTCTT TCTNTTCCCT TTTCGCCANA TGCTCTTTIN CCAGTC 776

## (2) INFORMATION FOR SEQ ID NO:461:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 808 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1331UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:461:

GATCGTGGC CTGCTCCACG AGCGGCTGCG CAAGGCCACG CGCTGGACG TGGCTGCAT 60  
 CAAGAGCTAC GTCACGGCG AGCGGCTGGA CGAAACCCCG TGCTGGCGCT CCCATGCACG 120  
 25 CCCCCCGGAC TGCCCCGGCG AGTGGCAGGA AGCCGAGGGC AGTGGCGGC CGGGCGAGGA 180  
 CGAGCTGGCG ATCTTCAGC TCTGCGAGCT GCTGGAGGAC CAGTCCGGT CCGAAGATGT 240  
 CATCCCGAT AGCATGGATG CGGGCGAGCG GGTACGCTG GGTCCCCCG AGCCCCAGGC 300  
 AGGCTCTCG CAGCACAGCT TCTGCCAGA TTCCAGGCAC GGTGGCCCC TTGGCGCCCC 360  
 CCGGTTAACC CCTTTGAGC GGGCGCCCC CTCCTCACTC CCGTCCCGG TGTACACCGC 420  
 35 GCGCGCTCC CGGTTGACT ACATTCGGA CAGCAAGGGA TGAACCCCTA CGTCTCCAG 480  
 GGGCCAGCC AGGCCCCAG CCGGCTCTC CTGNTGAAG GTNGAANGC CACCTNCCA 540  
 AAANTTTAGG GTINGGCGC CNGGGCGCT CAACGNTTG GGTCCGNAA AANCCNNTG 600  
 40 CCGGTTNCC CCGCTTTAA GCGGCGCTG AACNCGCT NTTCGGGNA GGGTTTCAN 660  
 ACNCAACNG TNNNCCCCC CTTTTTTCT TCNANAAG GCTNTTGT GTNNTTCCG 720  
 CCGGNGGN AATTTTNTT TGTGGGCTG NCCCTNAGA AAACNCCNC NCGGNCNN 780  
 45 GGGAAAAAA AANTTTTTT CNINGGT 808

## (2) INFORMATION FOR SEQ ID NO:462:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 762 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1332RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:462:

5 GATCTTTTAT GTTCTTTAG AGCAAGGICA ATTTTCACAC CACTTCTATC ATCTTATATC 60  
 CAGAATAATT TGAACAAGAA GGTACCGTCT AGTGAACGAC GTGATTTTCAT GCCGGGGTCC 120  
 AAGGTTTCATG AGTCATTACT GAAAATGAAG CAGCACTATA TCGAAAATAG GTTGCTOGAA 180  
 10 CTACAAAAAC TTCATCAGIT ATTCTGTAAA GATAACGTGA ATTTTTCCAA AAAAATGATA 240  
 AATGTGGAAG AAAGAAGAAT CGTAAATCTT CTAAATGACC TAGATGATGA TGCTAACTTT 300  
 ACTTTTGAGA CTGTCCATAC TAAATTTTGIG AATAATGAAC TATTCATGGA ACTACATGAT 360  
 15 CACAAGTCAG TGATATOGCG CGTTTGGACA TTAGATACTG CGGAGGATTG CAATGCGATG 420  
 AAGAAAAGGT TACGACCATA TACACTCAGC TCCTGACTA TTTCAGGCTC AAGTTGTCCA 480  
 ATATTGATGT AGATCCAACC GCCACTATGA ATTTNAGTTC CGAACTCCN TTGANCAGTG 540  
 20 TTACTTCTT ATTGTGTTTG TTACNCCAAT TGATCCCTCC ANTTTCOGAT TCTGGAAAAT 600  
 GCGGAAAAC CNGGAAANT GCGGAAAAC CTAAAANAAG GAANACCGTT AACNGGGTIN 660  
 GGAATGTCTA TTGGGGGGGG GCGNNANCIT TTAAGNNNC TTCTNNGGGG AANANNCCNN 720  
 25 NCTCCNINA AANTTTTTTC CCNGGGGNA AANTTINICT GG 762

## (2) INFORMATION FOR SEQ ID NO:463:

## (i) SEQUENCE CHARACTERISTICS:

30 (A) LENGTH: 798 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1332UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:463:

40 GATCTTTTTC AGACGCAGTG TACTATCGAT GAAGCATATG ATTATTATAC AAAACTTCTG 60  
 TCGATACTA TTGCATTAAA CCGGCTTAAT AGAAACGAAT TTTTGGAAAG TTGGACACA 120  
 45 TTAGAGATGT ATGGAGTGGC TTCTATTGAA AATGGCAAGC ATGGCAAAAA GCCAAACAA 180  
 TTGGTAAAAC TGATCAAGAG TACAGTTGAT GAAAAGGAGT TCCATGATGA AATATGTNAG 240  
 ATGGACTTGC TTAAGAAATT GATAATATAA AAGGCTACGA GCTTCAATAT TATAATACGC 300  
 50 ATTGCATAAT TTATTACATT AAATTGATAT AGGTATATTT TTCTTCGAAG AATTAAATCT 360  
 AATCATTTC ATGTGAAGAT ATGGCCCTCT GTGTACCTG CGGATATTTT GACTCTTAGT 420  
 ATATCTACAT ATTTTGGCGA GCCATTATTT AACTTGCCA GCTTGACTCT GGACCCAAGA 480  
 55 GCGTAAATGG CAGCAGCTCT TCCTGAGCGC AATTTCTTCC AGCAATTGAG GCACCATGTG 540

CCGTCTTITA ATTCCAGCAC ATATAACAGA CCGTCCCGTC CAATAACCCCT AACACAATTA 600  
 TTCCCTTTCT TTCCCATCAT GTTTCOGATA CTGGACATTC CCTGAAATGC AANTTTAACA 660  
 5 AGCCTTATAC CAGTGAAATC NIGCGTTTIG AAANATGCCN TGCCAATTTT AACCCGTGAG 720  
 GTGGTAACC TGAACTTTTT TTGAAATTTT AACCCCCCA ATNANNTTTC NTTTTTGNA 780  
 10 CCCCATGCCT TGTCTNCT 798

## (2) INFORMATION FOR SEQ ID NO:464:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 138 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1333RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:464:

25 GATCACCGGG TGAATATGCT GCTTGGCATA GTGATATAC ATTGTGAGAA AGTGCAOOGG 60  
 AAGGATGTCC GACTCGGACA CATGGGCGGG CTGTCTCTT AGGTAGAGGC TGGTCAGGTG 120  
 30 CTGGCTAAT TCTOGATC 138

## (2) INFORMATION FOR SEQ ID NO:465:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 137 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1333UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:465:

45 GATCGAGAAT AGCCAAGCAC CTGACCAGCC TCTACCTAGA GGACAAGCCC GCCCATGTGT 60  
 CCGAGTCGGA CATCTTCCG GTGCACTTTC TCACAATGTA TATCAACTAT GCCAAGCAGC 120  
 50 ATATTCAACC GGTGATC 137

## (2) INFORMATION FOR SEQ ID NO:466:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 766 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1334RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:466:

10	GATCATAATC CAGTCGCTGT CGAGATACTC GACAGGAATG GACGTCAGCG ATTTCGTGGA	60
	AGAGCGCCCG AAAACCTTGT CGGTGGGCTC CGCGCTTGGG GTGAGCGTCC CCGCGCGCGT	120
	GCCACCGCTC GACTGCAGCC GCGCAGGCTT CGCATTATC TGGTTCATGG AGAATAGCGA	180
15	CGATACTGGA CGCTTCATGA TGCATTAA GGCACAAAC TCGCGGTAT CATGCTGGCC	240
	CCGCGGCAC CCGGCCAACC GTGGCCCCG CAGGACAGTC CGAAACGGC CTGTCCTAA	300
	CCGACCTCC AGCATATACT GGTTCACCTG CAGGCTTTC CCGCCCCCTA TCAGCGTGT	360
20	CGTCTTTTC AGCAGAAACA TCTCCACAG CTGTGTATAC TCTCAAATA ACGCTGGTA	420
	TGTTACTGG TCCCCGGGC AACCGCTCT CCGCAACAC GTGTGGTCA AACGAGAGCT	480
	GCTACCGCTG GAGATGCTG GCAGCAAGAG AGAGTGCTC CCTTCATGA ATTGCAGAT	540
25	AGTAGGGTAC GAACTCATG NCCCTATGC CTACACCATG NANTGGTTF CTATTGTINN	600
	TGCGCCCCC NATNCTGTT CCACTINTN TTANCTGGC CACTTTTTT TNGGTTGCC	660
	CCCGAACCT CCTTCCCTA ACCAATCTG GGCNCCTTC NCAACAGGAA ACCTTNTGAA	720
30	CACTTCCCC NAAANGTGC GAANAAPAN TTTTTTNAT TNCCT	766

(2) INFORMATION FOR SEQ ID NO:467:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 796 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1334UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:467:

45	GATCCTGGC GGTCCGGG AGCCGACAG CGCGCGGTG GGCATTCTGG AAAGCGGTC	60
	CGCGCGCGG CGCGCGGTG GCGGCTAGT CCGGCTGTA CAAGTGGCC CGAACAAAC	120
	GCTTTTUGAC ATCACTCTCA ACGGCTGOC CGGCTGGG CAGTACTAG CCTGATCCG	180
50	CGGTCTGGT GATGTGTCC GCGCGCGGC GTCCACGGG CCGCGTGGC ACGTGTGGA	240
	AGAGCGGTC GGTGGAGC GCGCAGCC GTGGGGCT GACTCTGG CCGGCTGGC	300
	CCTGTCTGTC GCGCGCTG CGGTGAGC GTGATGGC CCGGCTTC TGTGGGGC	360
55	CGACCGCGC CAGCGCTG CCGCGCGC CGGCTGGC GTGCTGGC GTAGCGCGC	420

CCGGTGGCAG AACGACAAGG TCGTCTGCCC GTGCTCCGGC GACACGCTGT GGCAGGAGCC 480  
 CGGCTCCGGG CGCTCCGCGA ACATGCGCATG AACTGTATAC TACATACCTG CTACGTTGTG 540  
 CTUGGGCCCC CCGCCAAGCG CTNCTCCAN CCGGGGGGGC CCGGGGGGOC TTCCAATCA 600  
 CCGCCGGGGG GCGCGGCTG GCGCGAAAAC CCGCTTCGGC AACGNCCAAN AANNCCANNC 660  
 CCNTACNACN CCCANTTANC CAACACNTTC NTCACGGGT TNNNGCCCC CCGCGNCCNC 720  
 TTCTCCGGG TTTTITTTTTT CCGGANNATT NCTGNTCCCN CCGTNTCCCN CCTTATTTTG 780  
 NNNGCCCCC CCCCCC 796

## (2) INFORMATION FOR SEQ ID NO:468:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 791 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1335RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:468:

GAGGCAACGG AGGTGGGGT GGTATCAAG GTCTGTAAGT CGCTATGTCC TTTCGAGCT 60  
 TTTGGGGTTT TGTGGTCTTG CTTTGTGTGG AGGCTAAGGT TGGGGGGGGC GAAATCACAT 120  
 GCAGTGGGGC CGATTCCAGG TCCGCCAAGT TAATGGGANA CACCGGGGGC CTCAGCATAG 180  
 TGCTGTGGGT CCTCCTATGT GATTGGGACC CAAAGGTATG GTCCGGCCCTT GGGTGTGTCT 240  
 TTTCTGAGCT TGTTATTCCT TCGGGGGCAC TAAACTGGC OCTACTCTGA TTCTCTGTCA 300  
 GTAACGCAGA GTAAGACACA CGCTTGCTTC GTGTGAGCGA TAGTGTGCGA CATAAATTAC 360  
 TATGGGGGGA NCGNINCCAA NTTTAACTTN TGNNANAAA ANACCCAAAC TTTTCAAAA 420  
 CCCAAANTTC NATTTNGGNN NINGAAAATN CCGNTTGGNN AACCCCCCGT NNNGGGGTTT 480  
 AATGGGGTTT TCCAAAAAAA ACCCNCCANT TTCCCCCCCC CCCCCNAAAT TTTTAAAAAN 540  
 NCGTTTTAAA AANNNTNTTT NTGTGGNGNC CCCCCCCCCC CCGNAAAAAA AATCCCCCN 600  
 AAAAAANGNG GINTTTTCCC CTTNGGGGGG AAACCCCCC NPAANNCNN ACNTNCAANN 660  
 NNGGGNCCC CNKCCCCCN ANCNNTTG TTCCCCCTT TNANAAAANG GNCCCCAAN 720  
 CTTTTTTTIN NNNNNNNAA AACNCCCTTT TTNNCCCCC CCGCNAAAA AATTTTTTIN 780  
 NNNNTTTIN G 791

## (2) INFORMATION FOR SEQ ID NO:469:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 807 base pairs  
 (B) TYPE: nucleic acid



(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1335UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:469:

```

GATCAGATAA GAATTGAAGC TCAGCGGCTG ATGAGCGCAC TGCTTCGGAT ACGTGGTCC 60
TGTAACAGGC TGATAAAATG TGACACTATC ACCATAATGG GGTGTAGCT GGATACGATG 120
TCGGGATGG GATGGACTGT TGTGAACAAG ACGTGCAACG TCGAGGCCC ATAGTGGGAA 180
ATCTAATTAA CGTATTTACA TATCAGTGGC GATGTGTCTA GGTGCGGCGC ACCTCGATT 240
CCTGTCACTG GACAGCGCGG TCATATAAAC ATTATGTGTT AGGTTTAAA GTTCTTTGT 300
GGGTGGAAA ACAAGCTAC ACTACTACTA AATCTAATC GAGCCAGCAA GCACTATGT 360
TAAATAAGCC GAACAGTTTA CGATTCCAAG GGCACGGTGG AAGCCCCAA GGGCCGCTC 420
CNAVTCNTC CCTACAAA AGGGAGGGG GGGTACCAC TACCGAACC ATACNGGTIN 480
NAAACAACC NAANCCGTT TTTCCCCC CAAAATTAA ANATGGGGG CCCCCTGNNC 540
NCNATTTGTT NNININANG GGANAGGACC CCCCCCGG GNNNGNTCC CCCCNTCNA 600
AAACCANNAC CCCCACCCN ANAAAAANG GGGGGGGGN GGAACNCCC GATTCTAAA 660
AAATTAAAA ATTNNINGAA ACCGNAAAC GNGTGNON TNCNNING AAAANGTIT 720
TTGNGNNA CCCCCCAA CNNTIVINAG NNNCCGNC CCCCCAANN AAAANTITNC 780
TNGVANGGG AACCANTCC CCCCC 807

```

(2) INFORMATION FOR SEQ ID NO:470:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 782 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1336RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:470:

```

GATCATGTTT AACCCAGTA CGAAAACGTA GAAGTAGAG TGGATAGAAA AGCTGCGAAA 60
AGTAATAGAG CTGAACAGGT TTCACCAACC ATGGGTAAA AAGTCTTGA ATAGCAGTGA 120
GAATATCTC TGAAGAAAAG CATGACCACA GGATACATA GAGTAACITT TGTGCAAGT 180
TTATCTGAT GTACAATTTC ACGTTATAAA TTTTAAAGT ACTGGGCAA AATGGCACT 240

```

TGGTAGCGAT AACGCACACT CGAGTGAAGT CCATCCAGTA CATAAACATT ATGTCAACTA 300  
 CTTACCATTA TTGCCATTGC CAGATGAAGT ACCCATGTTC TGGTGATTGC CTGACCCATT 360  
 5 GTTACCACTT GCAGCGCCCA GGTITGGGGG AATCATGCCA GGAAAGGGAA ACGGCGGGAA 420  
 ACCCCGAACA TGGGTGGCAT ACCCATGGGA AACGCCAGGC GGCTGCGGCA GAGAACCCTT 480  
 GTTTTTGTTC CGCCAAATG AAGTTCCTTG GTTTCNNNN CCCCCCGCA AAAANCTTAA 540  
 10 CCCCCGCCCC CNGCCCCCN TCCCCCAAC TTTCNNNTG NGTTGGAGC CCCCACCCC 600  
 CCCCACATNT TNNCTGGGC GGGTTTNTN CCCCCGCA GACCCCCC CCGTTGTG 660  
 NNTTACCC CACCCNCCC CCCCCGGAA ANCCGNTNT AAAAATNEN AANAANNNT 720  
 15 GGGCCCCGNG CTCCCCGGG CTCCNTATA CCCCCCGN GTAAATNNC NAAGNGNCC 780  
 CN 782

## (2) INFORMATION FOR SEQ ID NO:471:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 793 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1336UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:471:

ATGCCCAATT TAGGATGAT CCGATCACC ACAGCTCGA GGGCTTGTG GAAAGCCAGC 60  
 AAGCCCTGCC CCGTGTAGAT GTTGGCCCC GTGCGCAAAA ACCCAGGGG CTGTGTGCC 120  
 35 TCGTTCGCC GCGTGTAGAT CTGCATGCC ACCTTGATG TGTCCAATG GTGGCAGCAG 180  
 AGCGCCTCAA ACAGGCCCC GGTCCCGCC GCAACTAGT TCAGGCGCG GTTGTAGAT 240  
 TTCTTAGAG ACATGTGGT ATCAGGGTAT GCGTCTGGC AACTGGGCT GCACGGATCC 300  
 40 GCTACGCTTC TCGTTCGCC ACCTATATAT ACAACGGCA CCGACGGCG GCGCCCCCA 360  
 CCTGTCTCC GACCGAGGC CAATAGGAG TCGGCATAC CCGCGGCGA ACCCGGTGAG 420  
 TCAACCCGCG CCGAAGCGG GCGCAATGA ACCGTACGT GAAAGCAAA GACTTAAAGT 480  
 45 ACTATGTAG TACACACTTA GCGCTGGCC ATCTGGCGA GTCTGGGAT CGTGGAGCGC 540  
 ACGTGGCGC GCGAGCGTG GAGACGTGT ACCCACCAC GCGCACAGT NTCCTTTGCA 600  
 CNACTTGA NTTCACAAAN NCCGNAGG CCGCGTTN CCGCTTCTT TCGCGCAAAA 660  
 50 AGACATCCT TACCAACTTC TTGTGCCCT NCCACTTCTT NAACCTGTT CONNCAOGAA 720  
 NAANCCTACC CCCCCCNNT TTCCGNAA TCCNACTIN TNCNCTTT TACCATTNT 780  
 55 NTTNAAGGG TGN 793

## (2) INFORMATION FOR SEQ ID NO:472:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 767 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1337RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:472:

GATCTTAATT TAAATTTTA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60  
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120  
 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180  
 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240  
 ATAAATAAGA AATTACITAT AGAATATTTA TTAATAGTAA TTTAATTTAA TTTTAATATT 300  
 AAATATAACA TTTTATTTAA TAAATAGATT ATTAAGTTTA TTAATATTTA GTGATATATA 360  
 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420  
 TTTTATAATA TTTATTTTAA TTAGTCTAGT AATATTCTTA TTTAATAGTC TCCCTTTAAT 480  
 TGGATATTAC TAAGTACTAA ATATTACCT AATAATATAT TATTAGAAT ACTTAAATCT 540  
 AATAATTTAT TAATAAAGG TATATAAATT AATTAAATTC TTTTATTA TTATTTAAAT 600  
 TATTATTAAT AGTAAATTAT ATTATTTATT TTATCACCA TAATTTTTTT GATNATAATA 660  
 TATCCTTTNN TAAATGGGGA ATTTATNAAT AATTANCITC NANGAATTTT AATGAANAAC 720  
 CCCCNTTANN ATAAATTTAG TTAANNNTGN NCTCAAAANN CCAATCA 767

## (2) INFORMATION FOR SEQ ID NO:473:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 799 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1337UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:473:

GATCAATTTA TAAATGGTTT AACTAATAAA GTTAATAATA AATCTATTAA TTATATAAAA 60  
 CTACCTGATT TTATTGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120  
 ATTGAGITTA TATTAAATTC ACCACTCTTT ATTATTCAT TTAATACTCC TCTAATTCAA 180

TCTTAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAAATTG 240  
 GTAAACATA TGTTTTAGGG ACATATACTT TCAGTTCAAA ACTGAATATC TACATATAT 300  
 5 ATCATTAAATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360  
 GGTTGTACC TTAGCTCTCT AATTAAAGTT ATAAAATTAT CTTAACTAAT AAAAATAATT 420  
 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTTA AAAAAAGAA TAAATAATAT 480  
 10 GTTATATTTA AATAGATCAA AATTTCAACA ATTTCATTT CATTAGTAC TACATCAACA 540  
 TGACCAATGT TACATCATTT AGTTTAAATAG GGTTTACTAA TAACCTTTAN CCTTTTACCA 600  
 AANNANNGT ANTANINGGA AAAATTATNC CCTTAATAAT AACCTTANIN AANNATINT 660  
 15 ATATACCAA ANNTINIGAN ATTTNAAAA ATATNGGCCG AANNNCNTA TTTTNGTAN 720  
 CCCCCNNTA CNCNGAAAA AANGNTTACC CGTTTCCCC CNEATNTGN NINCCNAAA 780  
 ATAAAAAATG NGCCCCAC 799

## (2) INFORMATION FOR SEQ ID NO:474:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 771 base pairs  
 (B) TYPE: nucleic acid  
 25 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1338RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:474:

35 GATCAACCGC AACCGGTCAC TCANGTCCAG ACGTTATAG AGACGGTCGT CGATGGCACT 60  
 ACAAGGCGCG CAAATGCTTT GCTTATGAAT AGCAGGGTTG AGGTGATAAC CGTTAAGGAA 120  
 ATAGTGAAGG AGACAGTTTT CGTGACTGAG AAGGTGACTA ACTAAGTCCA ATGCAAGCAG 180  
 40 AACGCTTTCT GTCTTTTGT CCAAACCTAC CTGAACACCT AAAGTTAGTT ATTACAACAT 240  
 GAGTTTATTT TACACAGTAG GGTGCCACAG CCACAGGAAA TATCCAAAGA AATTAGCTTT 300  
 GCCTTGATAA AAGATATTCA TCCCTATTCA GCGACCCCTC TAATAGGCAT TCTCTAGAAA 360  
 45 GTTCTTGGC TTTCAATTTA AATCTCGTG CACCTGTGCC GTAACAGTGT CTATAGTATC 420  
 ATTCCGTATC ATTTCTGAAT GAAGTAGATT CCATATCAAC ACTTGCTTTG GGGAAAGCT 480  
 CATTATCTTG AGCAGTAATG GCTTCACTC TATCTGTTT CAACATACTT TTTTACCTG 540  
 50 CCGGATTAA CCTCCCTGAA TTCCCTTAGG ATGCAGTGA GACCATGCC GATTATCAA 600  
 ATTTATCTGT CCTTTAANA ATTTTAAAC TTGACNCCC CTATTATAT TTTTAGCNT 660  
 ATCGTAATGC TCCNGANCC CCNANGAN ATCGGGTTTT CCNATTANC CTTTGGTTC 720  
 55 CCAANTTAAA ACCCNCCCC GNCCCCCCCC CCCCCACCN GGTGGGANA T 771

## (2) INFORMATION FOR SEQ ID NO:475:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 796 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1338UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:475:

GATCAGGTTT TCCGGTACGT GAGAACGTAT CTAAGGCACA AAGGGCTTTG GGCGACTGTG 60  
 CGGACGCTTG AGTTGCNAGA TACAGGACAA AGCTGTTAAG GGGCAACTG GTGCANCAAG 120  
 AGCAGCGGAG GAGCGATTCT GCGCGAAGCG ACGGTGAATT CGAGCCAGCT GGTAGCAGGA 180  
 GTGCCGGATC GTCTATTTAG TTGCGACGGG CGTCCGAACA GGATGCACT AAACGTTGCG 240  
 GTAACACGGG AGCCTGACGC GACGGCTGCT ACGCCGATAG CACGGGAGCG CAAACGACGG 300  
 CAGCCGCTGT CCGCAGAGAT GTCTTCACCA CTGCGCGGTA GCAAGCTGCA GCGCGGGAAG 360  
 CAGACACTTG AGCGCGGTCC GGGTCCGGCC AGTGGGACAC ACACGGTGA CGAGCTGGCC 420  
 GCGCAGCTGG AGCGCGGCTG CGAGCAGGGG TCGGAGCGGA AGCCCGCGTA CTGCTATGCG 480  
 GTGCTGATCG CGGTTCCGAT CCTACAGTGG CAGGAGGGCA GCTGACGCTG TTCCGNAAAA 540  
 TACCGNMGNA TTTCNCNCNT CTCCTTTAN TAACGGTGT TTTTAACCCG GGGTTGGAAA 600  
 ANANCTTCG GACNACNINT TNCITAAACA ANGGTMTGT TTTAAGGGN GGNNNCCCC 660  
 TCAAAGGANG GGCTTTTGG AAAATTAAAG GGGCCTTINA NCGGGGCTC NCTTNNCAA 720  
 AAAGGGGGAA TNATTTTNG GCGCCANATT TNNCAAAAT TNINCANTAG GGGNCTNG 780  
 NNAANTTNT TNCCTT 796

## (2) INFORMATION FOR SEQ ID NO:476:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 764 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1339RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:476:

GATCATGGCC TTTAGGCCA TGTCACCTT GCGCGACCG ATCAACTCG TCAGTGGGA 60

5 CCGGTTCGTG GGCTCGAGCA GCGCAATGTC CACACCCCTCC TGCTGAAAGT AGCCCTTGGA 120  
 CTGGGCTAGA AAAATCGCAA TGTCGTATGG CGCAGGCTGC CAATTCAATA GGAATGAAAC 180  
 TTTCCTAGAC ATCTTGGGTG CAGTCTCCGC AGCTACACCC CATTGCATCC AGGCTCATCA 240  
 GCGGCTTTAT ATACCCCTGG GCCAAAGATG ATTGAATACG GTTCGCAGAC GGCTACTGGA 300  
 ATACCCCTGG CGCCACAAGC CGGCCACTGG ATGCCATGGG CCAATGCGGA AGCCTCCTAT 360  
 10 GTGACATGTA CTAACAGAGC AGCTTCTTTA TGCCTTATC GAGCCAAAAC CAACATCTGC 420  
 GGAATCAGAC TTGACCGAAT CCGGCCCAT GGCAGCTGC TGGAAACACA AATCCAGCAA 480  
 CTAATAGGCG TCAGTGGTAT AACGGCCAT CGCTCTCTCA ACGCCAAGTC CCTCTCTGGG 540  
 15 GAAAACATGT GATCAGTGC TACATATTCA ACCCCCGTCT TACCTCATAG CTGGCATGT 600  
 CCAGCCCTGA ACTGTTCCGA CCTTCCTCT TCNGAAANC CTGATTGCGT TGCTTTAATT 660  
 CCCCCCTCC NCCAACCATG TTAGCCCAT TTAGTTCCTG TGCTTTTTTA TTTCGTGCAT 720  
 20 TGTTTTNTA AAAGNCTG TTAANTAAAT NCCNCCATTN TGGA 764

## (2) INFORMATION FOR SEQ ID NO:477:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 778 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1339UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:477:

GATCAGGCCA TTGTGCGATA GTGGCTTTGA TTGAAAAAT CGATCATTA CCATCTGAC 60  
 TATAGTCTTA CTGACCAAGC CCTTTGCAAA CAAAGACTGG GCGGTAAAC TAATGTGTC 120  
 40 TGCCTCAATG TATAACTGTA TATTGGGTT GATTGATGA GACCACCAA CTGTCTCTCC 180  
 TAAGCAACAG TCATCACTGG CCGTAGCAAT AGCTACCTTA ATATACAAC ACTCAGTGT 240  
 GGTAGTAAA GAGAACAACC ATGACATCT AGCAATTGTT GCAGAGGTT TAAACAACAA 300  
 45 ATACGGCTCC TCTTCTTTA TCTTGGGAA CGAGGAGGCC GCATACAGAC TCTTGTGTC 360  
 TTACGGAAAC TTAAGTACTG TGAAGGCAC CTTCGCAGAG TTGCTCCTT CTATCTCATG 420  
 GATAAGGAAG CTGAAGAGCC AGTATGGCCA CATATGAAA TTCCAGGATA TTTTAAATGA 480  
 50 TATTTAAAGA AAGGTGTACG TATATATCTT ATTCTTTGA TCGCTGTGCC GAGGCTTCC 540  
 CGGAAAAATG GTGAAACTT CGCTCTTTGA CACACAGCT TTGCCCTTCA ACAGGATAGT 600  
 TTGAAGGGAC ATGTTCTGTT GACAANNCTT GAACGAGGT ACTGGTGNAA AATTINAANA 660  
 55 TCTTTTCTCC NCCGAAANCN ANTTCTNCGG AANTTAACGG GAAAAAANC CCCCNNNN 720

CTTTNITTAN TAACCCCCC CAGGNTINIG ACCTTGATTT TTACAAAACC TTTTNTT

778

(2) INFORMATION FOR SEQ ID NO:478:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 766 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1340RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:478:

GATGGCTGA TATGACAGG CACTTTTGTA TATTAGCAGT ATTCTTGACG AGATAATGCA	60
GTCAACTCCT ATATAGAAAC CGGATACAGT GGTAAAAACG CAAATGTAGG CAATTATATA	120
TTACTCTTCT CGACACCACT AACTTCTUGA TAGGGGATA TCTTGTAAT TTGCATACAC	180
CTTTTCCCAA CTTTCAGTGG TCTGGTGGC GTACTTTACA TGCACTTGG CCATTCCTG	240
GAAGACATGT GTGATACAA ATTGAGTCTC CTGGAAATP ACAAATTCCT CTAAAATGCA	300
CTTTCTAATT AGCCAGGACC TGTTTAGTGG CTCAGCAATT GTCCGTTTGT CCGTTTGAAT	360
TGTCGTCTG AGTTTATCAT ATTCTGCACC TTAAAGTCC GGATTACTCT CCATAGATTG	420
AAGTTTGTCC ATATTTATTT CCACCTCTCT CTGCAATGT GCTATGTTAT TCCCGGCAT	480
AATTTTATAC CTATCAAGA CCGCTTCAGT GCTATAATAA TATCTATGAA GGTCTTAAAC	540
TTACCCGATA GGTGTCTCT CACTTCCTGA CGCTCCTTC TTAGAGGTAT CGGCCAGCT	600
ATTGAGATGT TTTTGATATN NTGGAATAT GANATTMAA TATCNVGAAT AGTGCTCTT	660
CCATTTGGT ANPANTGTIN CNGAATATC AANCAATTC TCCATCAAC NGCCAAGCAC	720
CCNCGTCTT TCAANACCT GNCNNGCC CCGTNGGTT NNNNA	766

(2) INFORMATION FOR SEQ ID NO:479:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 790 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1340UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:479:

GATCTGCTGT ACCTGAATGG ACTTTGTCTC CTGAAGTAGA AATGTAATGG CCGCTTGGG	60
AATACATAAC AACATAGCG GAGACAAAA CAAAGCGTT ATACACCAT CTGCCGTTAC	120

ATCAACGTC GCTCCTTGCA GACCAATAAG CTTTCAAGTT AAATATAGGC TAGCTATAAC 180  
 ATATTATGTC GCTAAGAAGG GCCAAATCGT TGCCATCGCT TAAGAATAATC GCTGAGGTGG 240  
 5 CCAAGCCCAT CACCAAGGDC CCCCCGCTCC CCGTCTTTC GTTTGAGGGC CTTGGGCTGT 300  
 CCACATGTGC CTGGTATCC ACCACGTGC GCACAGTCCA CAATACCCCC AGTAAGGGGC 360  
 AGACGACGCT GCTCTGACA GCGAAGAAGG AGAGTGGTT TTCCGCAATG AACCTGAAGG 420  
 10 CTTTCCGAA CGAGTGGGC TCCGAGGCT CAGGCTCTCC GGGCGAAGT CGGATTGAT 480  
 CGAGGCAATT GTGACTTTC AGCTGAAGG ACGCTGGGC AGGCGGGGA CAGGCGGGC 540  
 GTTCCACAGC CCGGGCAGA GCAGGCGAG CGTATGCGC CCGTGGACAA GGTACCATG 600  
 15 CCGGACATCG CGTTGACAG AACGAACCCC GTGCCACACC CTGAGAAAA CTACATACTC 660  
 CGGANICCN CNITGTNCCN CCAAGGGGT TTCCCTCCC GTTACCNATT CCNAAAAGAT 720  
 TTTTGCCNG GAACCCANGA AGAAACACC CGAATCCCA GAAGGGGNT TTNNANCCG 780  
 20 AACCGAANT 790

(2) INFORMATION FOR SEQ ID NO:480:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 765 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1341RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:480:

GATCACATCC GATGCGAAAC TGTATATTG TTTTCCACA ATGATGAAGG TGAGTGTGGG 60  
 GCAGCAATTG TCGGTGAC GACTCTATA GGGCGGCA TGCCACGTG ACCAGAAATT 120  
 40 TGCAATGTGA TTCATGATC AAATGGAAC CCATCCAAG TTTCACAGTC GCAAAAGAAC 180  
 AGTTGGATCC TGACAAGGT CTTCTGTAG GCAGCTCTAT AGACACTCCG GTTCTGTG 240  
 CTGCGGATGC AACGAAAGTG TCGCCCATG CTTACTCCA GGGCTTTT ACCTCTAAG 300  
 45 AAAGTGAAGT AACTCTGGA TGTATTACT TTCAGCAAGT CAGAAACCTG ACCAGGTTCG 360  
 ACTAGTTTTT TATTGAAGTC CGTCTGTCT CAGTATTTCG ACCAGTTAGT CCCACGAATG 420  
 AGAAACTTAA AGAATAATAG AATGGGAAG ACTCAAAATT TACGGCTACC ATAAGACTCA 480  
 50 CAGACTTACT CGACTCGAC GTTTTGTTC GCACTTTGTC CTGGAGTCA TATACAGAGC 540  
 CCGTATGCG GTAAACACC GGATGCGCTA CAGCAAGTA CTGGCTACA AGACAACACC 600  
 CTACGTAGC CGTTTCACAG TATGCAATA ATNGAAGCA TTCTCTCCG ACTTTTTCAG 660  
 55 NAAAGGNTT ATNGAAGT ANCCCTGTCT ATACTTTATT CCCCANCC CNGTTTTCNA 720



AAAANCAGNG AACCATACNA TGGGTTTAAT AATGAACNIT CACNT

765

(2) INFORMATION FOR SEQ ID NO:481:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 810 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1341UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:481:

GATCAGAGTA GATTTAGTAA AGAGGTAACC ACCACTGTTT CAAGAGTCC AGGGCCTTGG	60
CTTGACCAGC ATTGGTAAGT GCTGTGGCTG GAAATTTGCA CTTAACGGT CTGAGTCAT	120
CTGGTTGGCC AAAGACCTAT GAAGTTTCAA AACACCAACT TTGCTGCCA TTTATATTG	180
AAATGTATGA CAGATGCCAG GTGCTTACC GTACACTGTT TTATTGGTAA CTGGGTCTAC	240
ACCTTTCACG TTCACCTTTG CCACATGGAT CAACATAGAA ATTAAAGAG AGCCAACCTT	300
AGCCTTGATA TTGTGGGGCC AAAGAACTTT AGACTCTCA ATTTGIGTAT TTCTAAAGT	360
GGTTTTTGGC CTTTGGACCA GCTTCTTGAA TTGGTACTA TTGGCCCTAA CTTCCTTAAA	420
AATCGATTTC TCACTCTTCA ATAGTGGTTC CGATCTGTAT TCCATCTGA CAGCCTTACC	480
TATAGCCAGA ACGGCTCTG GTTGTCTCA TACCTTCACT GAGGCTTCA GTTAGAATTC	540
CAAGCCTTTA CCNATTCGCC AAATTGTTTA TGAANACACA TTCTNCTNG ANINACCCCA	600
AATTGAAATT ANGGGGNCTT TTCCANNCCN TGAANAAAA TGTNGAACGG NGTTTCAGTT	660
AAGCCCATNT ATCACTNGGN ANCATTCNNN AAAAANGCTT CCCCCCTCC TTTTAAAC	720
GGATCTTNC CAAAAACCN CCCCINAAT GAACCATTTT NCGAANCCG GAAGCCCNNG	780
CCCTCNCCN CTANATTCN GCAANNCATN	810

(2) INFORMATION FOR SEQ ID NO:482:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 759 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1342RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:482:

GATCCTGATT TTGATTTCGC CATTCGTGAT GTTAATGCAC TCAGTGCTGA TGTCCTATAT 60  
 ATCCAGCATG AATTATCCTG GTGGATATGC GCTATCTGCA TTCAACAAAT ATGTGCTGGA 120  
 5 CAATAATATC TCGAATGCGA CCGTCCACTT AGATGTCTTC ACTTGTATGA CCGGTGCAAC 180  
 GCTGTTTGGC CAGCTGCCGG ACTCCTACGG GATCATATAT GACAAGACTG AAGGTGATGA 240  
 ATTATIGGAC GCATGGTCAT CGTTCGATTA TGTCATTACA ACTGATCCCA ACAGCTCACT 300  
 10 GCTCCTGTTT ACAGGCTACA AATGGGAGCG CATCCAAACT ACTGAGGCGT TTGACCGCTT 360  
 CGACCTTAAA ACTATACCGG AAATAATCAA CTCAGAAGTT GCTAAGGGAT TCCCTATCTT 420  
 AAAAGATGCA ATACTCTCTG CAGACCTGCA ACGTGTGAAG GCTGGCTTCA CAGATGTGAT 480  
 15 CAGGTCCAGG GATTCACTGT ATACATATAA AAGAGTTGAG AATTAATAGA ACCAGCGCTC 540  
 CGCTTACGGA CAGTTTCCAT ATAAATATTT ATTTATTAAA CTAAAAAGTT CTGCGAGTTG 600  
 AGGAGGAATT TGACTGCTGG AGATTCCGAC ATACTGAAA CATAAAGTGC ACATTTACAG 660  
 20 GATTCGGCAG TTAATTGATT CCCCCTCTCN NNCTTAAAT GCGTGATCNA ACTTNAACA 720  
 TCCTATTGAA CCCCCTTTGG TGNITCAANC AAANTNDAA 759

## (2) INFORMATION FOR SEQ ID NO:483:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 802 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1342UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:483:

GATCGGGCAG GCGCGGAGC AGCAGTGGCG CGCCTTCAAG GAGGCGGCGC ACTTCGGGGC 60  
 40 CATCATCTCG ACCAAGATGG ACGGGCAGCG CAAGGGGGCG GGTGCCATCT CCGCGGTGGC 120  
 CGCCACGAAA ACACCGGTGA TCTTCATCGG CACAGGCGAG CAGGTACACG ACTTCGAGAA 180  
 GTTCTCGCGG AAGTCGTTGG TGTGGAAGCT GCTCGGCATC GGCGACATCG AGTGGCTGCT 240  
 45 GGAGCAGTTC CAGACGTTCT CCAACAAGGA GGACACCAAG GCCACCATGG AGAACATCCA 300  
 GCAGGGCGCG TTACGCTTGC TGGACTTTCA GAAGCAGATG CAGACCATCA TGAAGATGG 360  
 CCGGTGTGTC AACCTGCGCA GCATGATCCC CGGCATGAGC GGCATGATGA GCGGCATCTC 420  
 50 CGAGGACGAG ACCAGCGCGA AGATGAAGAA GATGGTCTAC GTGCTGACT CCATGTCCCG 480  
 CGAGGAGCTC GAGTCGGACG GCGCTCTTCA TCGAGGAGCC CCGCCGCGATG CTGCGCGTGG 540  
 CCGCGCGGNC CCGGCACCTT CCGTCTTTCC GAAGTNTGAA AATATCTCTC NTGCGCTCAG 600  
 55 CCANATGATT GCGCGGNTT GCGCCANGGC GCGNANAACA TTGGCGGCTC CCTGGGNTG 660

CCGCGGCGCC CCGGGAATGT CCGCGGCTCT CNGCTCCAAA NGATMTNACC NGCCCNANCN 720  
 TGNVTNNCT CAACCCNCCC NTGANNCCCN CATAATGGCT NNNGCGNNGG GGNCCNGGGC 780  
 5 CCCCATGCCC CCATAGGCN AT 802

## (2) INFORMATION FOR SEQ ID NO:484:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 844 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1343RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:484:

GATCAACCAA TGTGTTAAGG AAATTTTAA CGTTTCCGG GGAATTGGCC ATCTTCCCT 60  
 CTAATTGGTA GGAACATAG TCTGTAGCAC CCATGATATT AGCAAGTTTC CCGCAAGCT 120  
 GAAGCAAACCT CTTAGCCCTC TTCCTTGTT TTTCCGAACA ACTAAACATT GCGGTCCATA 180  
 CCTGCCCTCG AATAGCCTCT GAAGGACAAG CATTCAATAG TGTATACGGA GCATACCCAC 240  
 TAGTTGGTAT CTTATAGTTA TTACCCATGG TGTCTTGGT GAGCTGACGA AGAACAAGAT 300  
 GGCTAGTGCC ACTCGATTCC AAATCTTTCC ACGGAATCTT TATGTAGCTG GAAGATAATG 360  
 ATTCTGTGTT GTTGATGAAG TCTTGCCAA TAATGCTGAT GTTTTGGGAT AACTGTATAA 420  
 ACTGCTTTCT GACTTCGGGC GAGGCATATG CGCTGCTTT TTCAAAATCC TCTAGCAATA 480  
 TAGGCGCTAC CCGTATCTCC TCGCTGCTCA GTTACTGCT TATAATCTCG TCCGATAGCA 540  
 CTGTGTTTAA TCTTTTGCAA AGCACAACAT CTGTAITCAA GATATCATAA TCTCAAACAT 600  
 CTGTTCATGA CATTCCCTGA GCTGCGGCAA CAAATTGTTT ATCCGGATGT TGCAACCCGT 660  
 TAAACTCCNC ACAATNCAAT CCCCCGGCAT AAAATCTTGA TTTGATCTAT CNAATGATNT 720  
 NONCCCAACC TCTTGTGACA ACCCTCNCAG TCTTACAAC CTTACCGGTT ATGATTTTNG 780  
 NAATTOCTAC CCTCNGCAT TTAGTTGTTT NNATACCTT TNGNCCCCGG GNGGACTTA 840  
 45 TCAN 844

## (2) INFORMATION FOR SEQ ID NO:485:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 676 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1343UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:485:

5 GATCGATTAA AGGAAGCAATC TGCTTCCCGT CATATCATAT AACATTGTAC CCGGGGCTGA 60  
 GGGGACCAG TAGCGAATTT GATAGCAGTG TTCTCCAGT CCGGCTCCA CTGTGAGCTC 120  
 CTTAAAGTAT ACGGCTTCA TACACCAGTG CCCACAATGA TCGGTACTTG ACTTGTAATC 180  
 10 GAGAGCAATG GCGTTATACT GTGATTACGA TGAATGTAGC CAAGAGAGAA AAGGTCATT 240  
 CACGATATAC AGTACTCACA TTCAATGGCAT GCCATCCCCA AATTCCAATA CAGCCATTAG 300  
 CACCAATGTA GCGCTACTAA TCCGCGAGC TTAATTGGCG TCAGTTCAGA GTGAATCTCG 360  
 15 AGCTTAAAAG TCAGATTGAT TAAGTAAGAA AATGACGATC AACAGGGTGC TCAAAATAGT 420  
 TGATTACCAG ATTCCGGGGT GTGGTCTAGT GGTATGATTC TCGCTTTGGG TAAGCGAAGT 480  
 TGCGGTTCAC TCGGCTTAA CTACTAAACA TGTGAGAGGC CCGGGTTC AATCCAGCT 540  
 20 CGCCCCAAAT TTTTGTCTCT CCGCTCCCGC GCGAAGGTG AATATCAITT TACAAGTAGT 600  
 TAACTCTCC CAGGTTACGT CTTCTGCAG ACAAGTTGCA GCGGTTTACA ATGCTCAGGC 660  
 TATTTTGGCG CTTCAA 676

## (2) INFORMATION FOR SEQ ID NO:486:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 827 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1344RP

35

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:486:

40 GATCCCTGGG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTTGTAGA AGATAGAAAC 60  
 CATACTGACT CAGCTGTAT TTAACCCAAC TCAGTAAACC TTTTAATTGA CGAACAGTCA 120  
 AACCTACTT AGCTGTTACA ACCAAGAGGA TAGGTTGAGT CGACATCGAG GTGGCAAACA 180  
 45 TAACTTACAA TAGCTACTCT ATCGTATAT TACCTGTTC AATTTTGTGA TCATAATAAC 240  
 ATTTAATTAT TATTTCAATA ATTCTCATTA TTGTTGAGAC TATTTCAATA TGTATTATTT 300  
 ATTAATTAAAT ACATATTGGG CTTTCGTGGA TATAATTATT GTTAATCCTA CTCATATATC 360  
 50 TAGTGTGTA ACGTCTTAT AACTTTATAA AAAGGATGT TATAAGCTTC GCTGCAGATT 420  
 GTCTTTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAACCCAA TTTACTCAAT 480  
 ATATTAAAT ATTGATAATT AAATTTCACA ATTTAATGG ACTATTAAIT AATCCCTAGC 540  
 55 GTAACTTTTA TTGTTTATC AAATACCATT ACAATAIGTT ATATTGTTC ATTATGCCAA 600

ACTTAAGTTA TTGTTCTACT TGTAGTATTA CNAITATAGC ACAGTTACCC CATCATATTT 660  
 ATTTAATANA TACCCCAANT AGNTTTTTTTT ANCATAAAAA GGANCTAATT TCCCTTTTTT 720  
 5 CNOCAANTCC NNCTCTCTCA ATATNTTTAA AAATTTTAAA CNNAANTAAG AAACCCCN 780  
 TNAACCNCAN CTTTTTTCAN GGCTTTTAN CCINTTNAAT ANCCCN 827

## (2) INFORMATION FOR SEQ ID NO:487:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 872 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1344UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:487:

GATCCTTATA AAATGGCCAA TAGACGTGTT ATAATATAAT ATACAAAATT ATAAATAAAT 60  
 25 ATTTAATAAA ATATAAAATT AATAATTAAA GTATTATAAT AATTAAATAA ATTATTATTT  
 AATAAGTATG GATTTTTAAC TGAAATTTGT TAAAAAGAAA TAAGAATTGC TAGTAATCTA 180  
 TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTTTCGCA CTAATCACTC ATCAGCGGTT 240  
 30 GAAACATATA ATTAAATAAA GAATATTAAIT TAATTATTA ATTATTAATT ATTATTAATA  
 TTATTTAATA AATATAATAA ATATTTTAAT TTAATTATG AATTAAATGC AAGTTGAAAT 360  
 ACAGTACTG TAGGGGAACC TGCAGTGGC TTATAAATAT CTTPAATAT CCAITTTTAT 420  
 35 ACAAATAAAT ATATTTTTTA ATATATTTTA TAACTACTAT AATTAAATAG TTAATAATTA  
 AATTATAATT TAATAATTAA ATAACCTTAT AATTAGAGAG TTAGGGTACA TCCCCCTAA 540  
 TGCTATGCAT TATGGTTGGT ACCACTCTAA TTAATAAACT ATAATAAATA AATACTAATA 600  
 40 TTTTATATCA ATTAAATTAT AATTATTTTT TATTAATATT TTAATATTAT TTAATGAAAT  
 ATATAAATAA AGTATTATAA TTTAATAATT AAATAAGAAA TGAAGANAAC GACTCTCANA 720  
 ATTAAATTGC ATTATAGTT TACCATTAAA CAACATTCCTC TTATTCATAT TATTINATCN 780  
 45 ANTAATTAAT ATCTTATTAT TNATTAGAAG GANAGGNINC CNOCCCTAAT GCTTNGCATC 840  
 TTGTGTTACC NONNATTAAA AAGTTTACAT NA 872

## (2) INFORMATION FOR SEQ ID NO:488:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 835 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1345RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:488:

GATCCCAACG TCTGATTATG TGTGTGAATG CTGTTCTCCT GCTCCTCCTG AGTCTCCTTA 60  
 GCCTTGGGCT TGTACACTTT GCCGTATGTT CCGCTGCAA TATACCCGAT GATTTCGTAC 120  
 TTCTCCAGCA CTGACACCCCT ACCGGGCTCT TCCGCTGCC GATATGGCCC TATCGAGAAC 180  
 ACATTGTAT TCGCCATTAG CATCGGCGAT TTGGACGTGC TGGCGCTGCC TTTGGTATCG 240  
 AGAAGCTGCT GTTGTGTGTG CTGGGACAC AGGCTCCGG TGGATGCCCTG GTTGGATAAG 300  
 TTGAAATACT TATTCTGTGTG TGTTTGATGC TGATTATCA TACTATCGGA GGACTGTAAA 360  
 CGTATCCCCA TAAATAGAG AGCTCGAGCT ACCACCTGAC GACTTGTGTT ATTGTAGTG 420  
 TTAAATGGAT ATCGGCTATG TTCTAAGCTC GTTTTAAAGT GTAAACATT GCAAATCCAT 480  
 ATGCACACAG CTCATCCGGT TCTACCGACA ACCCTCTTGC GACCGGAGCG GTGGAGCTGG 540  
 GGTGGATAGT TCCCGAGCCC CTATGTAGTA TATACAGCGT GCCACGGCTG CGCCTGCGCG 600  
 GCTGCAGGGC CTCAGCAAGA NIGCCCCCTC CNGCACTGCT TTATCCTCCT GAAAGCCGTA 660  
 CAACNCCGG NNAATAAGG GGCACCCAAA GNGCCCCAN GCGCCCCGAT AANAACNTGA 720  
 CCAGCCTTAG NGAGGCCCCG AAANAACANT GCGCTTTTTC AGCGGGCGGT CGCACAACC 780  
 CCAAGGNGN TCCCNITGG GNTTTTAAT NGCNGGGG ANGCCCNIT NCTCT 835

(2) INFORMATION FOR SEQ ID NO:489:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 863 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1345UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:489:

GATCCGGGT CAGGCAAGC CAGTCTACTG GGGACGGAG ACCGGCACAG CATTGGGGA 60  
 GGGAGAGCTG GAATATCGCG ATGACCACAT TTGGAAGCA GCTACGTTT ACTTTCCGT 120  
 AACGGAGGGC GCGAGCGCA CGTACGGA GCGCTGGC ACGTCCCTCC CAGAACAGCC 180  
 CATCGTGTCT CTCATCTGA CGAGTACACC GTGACTCTG CTGTCAACA GAGCATCTG 240  
 TTTCACGAT GACCACGGT ACCTGCTTCT GCAATGGAAG GGTATGCTGG TGGTAGCCGA 300  
 GAGAAGTGA CTAGCTGACT TTAAATGGAG TGGTACACG CCGGTGGTGG TCACCTCATT 360

CCGGGTTCT GACCTCCGG GGCTCTATTA TACCAATCCA CTTCTTGGGG ACCCGGTAG 420  
 TAGGCGCGTG CTGCATGGAG ACCATGTCAC CGCGACACA GGTACTGGTC TGGTACATAC 480  
 5 TCGGCCAGGG CACGGCCAGG AAGACTACCT AGTAGGTCAG GCGCAAGGCA TTGAAGTCTA 540  
 CTCGCCAGTC GACCATGAGG GGAGGTATAT TCTGGATGAT ATTCTCCAC ACCTCCGTGA 600  
 TATGCTAAGA GAAGAGAGCG GTAAGCGCGT GAAGGTTACA GACCACAAAG ANTGCGGNT 660  
 10 CTTTCATCAGT TTGCTANAAA AACCCAGAT GCTCTGCAAT TCCCTGAATA CCACNCTCNT 720  
 NTCCCTNCAA TGAGCTNAA NAACNIGTIT TONAGANCTA CCCNCCGTN GTTGCNAACT 780  
 GATGGACTGA ACTTCCCCCN GGAAACCTGA ACACTTTATT TTTCCCTNCC AGGGGAAAAA 840  
 15 NCGNICAAGG TTCTCNAAAN CGA 863

## (2) INFORMATION FOR SEQ ID NO:490:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 836 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAGL347RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:490:

GATCATCATG CCAGCGCCCA TGCCGCGCGG GGCACACCTT CACACCCACC CGTAACTGAC 60  
 AATACTCGAG CACCTTCGTG CGCTGGCCCG CTGGCGGCTG CCTGGGCCAT TATGCAACCA 120  
 35 CCGACACGTT TTATTCCACT TAAAAATTAC TTAAGCTGAC GTTACGCTG TIGAAAAATT 180  
 TTGCGTTCAC GGAATTTTTC TGGGTGAGAT ATAAAAGGGG CTAAGTTGCA CAGTGAAAAG 240  
 GTGAAGTTTT TTGTGTTTAG ACTTCTTTTA TGACCTCATA GAAGGAATTT GGGAAATCTG 300  
 40 ACTTTCTAGC AGCTCTCTC CAGTTGGAAG TGTTTACATA CTACTGCTAA ACGTGCGCTA 360  
 AGTTAAGATT TTCTTTTCTT TAGTTTFAAA CTCAGTACCT TATTCCATAA AGCGACACTA 420  
 CGATGCTTC TAGATCTCC CTGCTCTGGA ACCTAACGAG ATCCTTGAGC TCTGTGGGGC 480  
 45 GGATGCAACA GATGCGGTTT GCATCGTGA AGTCGATGAC TGTGCGGAT GCGTTGAACA 540  
 GTGCGATGCC CGAAGAGATG GACCCGTGAT GAGGATGTTT TCATCATCGG AGAGAAGTTG 600  
 CCGCCAGTAC AACGGTCCCG TTACAAGTCA CCGAAGCCTT GTTTGACCTT TCCGNAACG 660  
 50 CGGTTNGTG ANACCCATCA CCGAAANGTT TTTCGGCTCT TCGGTGGGTN CNOCTGAAGG 720  
 CNTGACCTTA TGTCAITCAN TNGTTCACTC TCCAGCAGCA NGACANTTCT GAATCCCGGC 780  
 CAAATACANN TTGTTGTGTG CNACCVTCAN TGTTTCCAGC NAAGNCGGNC NCGNNC 836

## (2) INFORMATION FOR SEQ ID NO:491:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 869 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1347UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:491:

GATCCTACAG AACTCAACTC TTATATOCAG GACTCAGTCA CCGGCTCTGC AATCCGCAGC 60  
 AGCCACGCGT GCTCCAGGCT GGGTGGGCAT TGGATGGGTG GGCACGACCC GAGTGGGCAT 120  
 GPATTCCTGA TAAAGTTAAT GTGTATGTTT ATCCTGGGCG AGCTGCAGGT ATTGGGCGC 180  
 CCGCAATCG GGAAGCTTTC TGCTGATTTT CAACAGCTGC AGGGGCTCC TGGTAAATTT 240  
 GTGGCAGCCA TTITGCAAGC AAGTCCGATT AGAGAGCTAA TTAACCTCTGA AGCCCCCAG 300  
 CATATTTTAA GAGCGCTTTT CGTCAACTG CCACTAGAGA GTCTTGCGAT TCTGGTGAGC 360  
 GGGGTGTGTT TTGGCTTTTC GTTCATGTG CTGGAAGACC CGATTCTATT GCTTGTCCGT 420  
 CTTATTCCTGA CATGGACCTG GTCACCTCTG GTAACCTATC TCTCTTTCCA TTGTTTTCG 480  
 GAGCATTGTA CCGTTTTCCT CTTCGCATAC CTCTAGTTT TGGGTTATA CTGGTACATA 540  
 TAATGATCTA AGTAAATCT GCAATATTAC ACACGAACGT TAAACTCGCC AGCTGGATAT 600  
 AGGCAAAGAT TCCAGATGCT GTGCTTTTCG CCTAATATGC GGAAAGATGA GCAGGCCAAA 660  
 CCCAATGCAG AGTAGGTTTC TCATATAGTA ACCATCGGCC AGAATGACAA CTTCGCGCCG 720  
 CTTTGAAGC ACTCCCCCTC GGAAGGAACA TCNATGGCC GAATTTTTCG CACCTTANAA 780  
 TTNAANAAAC TATCATCGCC ATAATACATC CGANACAATT ACCCCANAA TATCAAGTAT 840  
 CNGAAATTTT CMTTANITCN CCAATACGN 869

(2) INFORMATION FOR SEQ ID NO:492:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 772 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1348RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:492:

GATCCTTCAG CAGGTTCAAC TACGGAAACC TTGTTACGAC TTTTAGTTCC TCTAAATGAC 60  
 CAAGTTTGAC CAGATTTTCC GCTCTGAGGT GGAGTTGCC CCTCTCTAA GCAGATCTG 120



AGGCCTCACT AAGCCATCA ATCGTACTA GCGACGGCG GTGTGTACAA AGGCCAGGA 180  
 CGTAATCAAC GCAAGCTGAT GACTTGGCT TACTAGGAAT TCCTCGTTGA AGAGCAATAA 240  
 5 TTGCAATGCT CTATCCCCAG CACGACGGAG TTTCACAAGA TTACCCAGAC CTCTCGGCA 300  
 AGGTTATACT CGCTGGCTCC GTCAGTGTAG CGCGGTGGG GCCCAGAAAG TCTAAGGGCA 360  
 TCACAGACCT GTTATTGGCT CAACTTCCA TCGGCTTGAA ACGATAGTC CCTCTAAGAA 420  
 10 GTGGCAACC AGCAAATGCT AGCAGCACTA TTTAGTAGGT TAAGGTCTCG TTGGTTATCG 480  
 CAATTAAGCA GACAAATCAC TCCACCACT AAGAAGGGC ATGCACCACC ACCACAAAA 540  
 TCAAGAAAGA GCTCTCAATC TGTCAATCCT TATTGTGTTT TGGACCTGTG AGTTTCCCC 600  
 15 GTGTGAGTC CAATTAAGCC GCAGCTCCAC TCCTGTGGTG CCGTCCGTC ATTCTTTAT 660  
 TTTCAGCCTT GCGACATAC TCCCCCGAA CCCCCAAAT TGATTCTCCT AGGTGCGAT 720  
 TGTTCATAA AAACACACC ATCCTATTG CATATTTAT GTTAAATACA AG 772  
 20

## (2) INFORMATION FOR SEQ ID NO:493:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 823 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1349RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:493:

GATCGTATA TATCAGTCTC TTGCTATAGA TTAATATAGA GCCCACCCT AATGTACAAG 60  
 TTATACTAC TGTAAACAG TTATATAACA GGTAGGAAC GGGGCGGCG GCGATTTTTG 120  
 CCTATGGCTT GCCAGGTAG CAAGTCTAT AAAGCGGAC GTTCTTCCG GAGCTTTTTC 180  
 40 ATCTTGCGCA GTTCACTTG CTAGTTAGTT TAGGCTAGG TCGACAAACA TATTCCACAT 240  
 CGTTTAAATG GCTGGGTGAC CTGATAAGT CAAGGGCGTG GTTGAGCTGG ACCCTGGTT 300  
 AGCTCCTTAC GGGACATCC TCTCTCGAG ACGTTCCTT GCGACAAGT GGAGGCAGA 360  
 45 TATOGAACAT GCGGTGCCC GCGGGCGCG CAGTCTAGT GAGTTTCCG GCGACGATA 420  
 CAAGACTAC GGGTGCAG CGAGCGCA GAGCAAAAG ATAAGTACA GGGAGTGGC 480  
 GCGCAATCA ACCGGGGGT TTCTAGTGG CAGTTTCAAC GGTGGATGA GACCTGAC 540  
 50 GAGCTCAGA ACAAGGACGA GTTGGGTGT TACGGTGTG TTGGACCTG GGGGACGGC 600  
 GAATTCATAA TCGCTACT CACCTTTAA GTTGTGTTC AACTTGCAC CGGAGCCGA 660  
 TACCGGTG CCACNTGAT TCAAAGGAC CCAACCCACC AGAANCCAA GATTTGGGC 720  
 55 NCCTTACAAG CGTCTGAC CCGCCCCCT ACATTGACA CAAAGCCCC NGACCAACTG 780

ATNCTTNAAA NNACAGNCNC TTGCTCTCAC CGACCCGTT TGT

823

(2) INFORMATION FOR SEQ ID NO:494:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 879 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1349UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:494:

GATCGCGAAA ACTAACGCAC CAAACCCGAC GGAAGCCAGA GCTCTCTTGT AAAGTGGCAA	60
GATAGTGTAT GTCTGGCCGG ATGGCTCAGA GGATTTCCTG CGACCATAGT GCCAGCGATT	120
GACATATGGA GTTATCATTG CAAAAGCAGT GGCAATAGCA AGACCGGTTT TGTTCGAACC	180
GGCGTCTCTT TCTTTTCATTA TTGGCCACAA GGGATTGTTC GAGTAGAAGG CCATCTTCAA	240
CACAACGCTC GCAACAAGGC CTAGAGACCA AGTAATGGCA AACTGCGCGA CACGCGCGTT	300
GTCTCTTACA ATGCTCTTCA AGGTCACGTC AAAGTTCATC GTCTGAGAC CCGTGGCAAC	360
CGCAACGCTC ATCAACCTCC ACTCCGGTTT CTCACTATG TAAGCTCGA TACCGATTAC	420
ATTAGCAAGT AAAGGGCCGT ACTGTGTGAT CAACGTTGGG AAAAATGGAA CATAAAGCAG	480
AACTGGGCTC AATACCGCCG CTATCAACCG CCTCATAGCC GGAGATACCC ATGTACCAGA	540
GCGGAAAAAA CCATATCATA CACAATAGGG CAGTCAAGTT CGTCCAGAAC ATAAACGAGT	600
CAAAGGTACT GACAACAATG TAAACAGAC TTGCTGTGATT GGTGATGGGC TGTCTCGGCA	660
GGTAAACGAG TTCTGTGCTT CCTGGGTGAT AATCACTCC TCCAGCATT TCCTCCATTG	720
CGCCGCGGCC GAGTCCCTTG CCGGGCTAGA NAGCNGGTG CTGTCTTTTG ANTGCACAAC	780
CCCCNCGAAG GCCTGTGCC TGGGTGGCCN AACTTTCNCT NAGTCCCTCC AGTTTGCNTT	840
ACTTACCCCTC CNAAAAATTC CAAATATCCN GGACNCCN	879

(2) INFORMATION FOR SEQ ID NO:495:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 829 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1350RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:495:

5 GATCTCTTGC AATTCTCTCT CGGTCCTCTT GTGATCTCTA TTGATCACTT TTTCGAGTTT 60  
 GGTCCGCTGA GAAAGCGTCG CAAAGTTGTT CATAAGTTTC TTATACCGTG CCAGTTTCCG 120  
 AGCCAGCACA TGTGCTGA TGTGTGGAG CGCAATTGGA TCCCACCGG CGCCATGTT 180  
 ATCCTTGACC GCGATATTGC GTGTGATGA AGTCTGAACG GCTCGTGGC CTGGAGGTAA 240  
 10 GGCGAAAAG TAAATTATA TAGAACAGGC ATGAGATTGG CTGGAAGTTC AGGGAGCCAG 300  
 GCTCGTGGC AAGCAGCTTA GAGAGCCATA GGAAGCCACA TGGCAGGAA CTAGAGATGA 360  
 GACCCACCA AGGTGAAGTC GCCCAGGCA CAGGGCAGT CTTAGCAACG TGGTAAACAT 420  
 15 TAAAAATAAT ACATACGTTA CAAGCAGCGG GCATAGCAAC TGCTGGAGT CATGTTTTAG 480  
 AGAAAAATAG AAAATTATT ATAATATTCC TTGTGTATGA AATAAAGCTG CTTTCCAACA 540  
 CGCGCAGAG ATTGAGACTT GCTGAAGCC GTAAAAGGAC GAAAAACGA ACGAATAGAA 600  
 20 TTAGATAGA AAAGCAGCAC TGGGCAAGG CGAAGCGGG CGGCAAGCC GCGCGGCTT 660  
 TCCCTGNC TCAGCTGCA ATGCTCTTCA GTGATCTTG CTCCCTCTGT CCGCTCTCA 720  
 CCTCTCCAC TCTCGTCTT ATCTTTTGA TGAACNAGG CTGACGCGG TGTTCACTCC 780  
 25 ATCTTNCNC GNCCTGCTG ATAAATTGCT CAGCCTACC TCTTGGNG 829

## (2) INFORMATION FOR SEQ ID NO:496:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 875 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1350UP

## (xii) SEQUENCE DESCRIPTION: SEQ ID NO:496:

40 GATCCGCATT AAGCGGACG ACGAATCAA TACCAAGAAG CTGACGAGG AGAAGGAGG 60  
 GCGCTCAAC GCCATCATCA ACGGGGAGC TAGTCATATA AGCGTCATA TAGCGCAATT 120  
 45 AAAGGTTTAG CGTCATGAT AGTTACATAA AGTTAGAATG CATGCTCCG CACGCGCGG 180  
 TTGACTGG CGAGCCAGG CGAAAGCGG TCTTGCGCG CGGTAAGAA GAACCGCGG 240  
 AAGAAGTGA GTTCTCCG CACCGGTG TAGAGTCTT GCTGAGTAC GTTGTACTTG 300  
 50 ATCGGTCGC CTTGGAGAT GCATTCATG AGCCACTGT TCTCGTCAA CGAATGCGTC 360  
 GCGCGCTGC TGTGCGACTT CATCATGAC AATTGCGGA ACGCTCGAA CCGGTGATA 420  
 AGCGAAGCA AGCAGAGCC CCGACGTAC AGTCCGTGC TGTGCTGG CTGGCGCGG 480  
 55 CCGATCAAG CCGCGCGCA GTACTCAAG GTGTCTGA GCGCTCGG CCGCGGTG 540

CACACTGCGG CCGAGGTGAA GTCCGGCAAG AATGCTCTTG CCGCGGCACG AGCACTTTTG 600  
 CGGTCTTGAT GTCCCGGTGC ACCACGCAGC TCTCGOGAAG GAACTGGAGC GCGCCACAA 660  
 5 GGTCAGTGC GTACCGCCAC CACTGGGCTT TGTGCGGGC GCGCGCGGT GCGCGCTTC 720  
 CANGTGGGTT TCAACGCTC TACACAACG CCGGACGNC TCGCCACCGC GAACGGGCG 780  
 GTATCCCNAC GTTTCGGCC GCGCGCGG GGAANGGACC ACTTTCGGTC NOGACGNC 840  
 10 CCGCGCGGT GCGAAGGGG AATTNTTAC CTTCT 875

(2) INFORMATION FOR SEQ ID NO:497:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1351RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:497:

GATCATAATG ATTGTCCTTA ATCTTTTCT TAATTATCA TTAAATAATT AATTAATATT 60  
 TTATTAATAA AAAATATTA GAGTTATGTT CGTTATGAT AAATTCTAAA ACTTTGCAGC 120  
 30 ACGAACTGAA GAACTATG TAAAGCTGT AATTAATTAT AAATTATAT AATTAATAT 180  
 TCAAAAAATG GTAAGATTA TCGAGGATA TCGAATAAA TAACATGTC CACTGCTTAA 240  
 GTCTGTAACC GTCTATGTT TTGATTTTAA TTATGCTAA CGTAGTCATC AGCGGAATA 300  
 35 CTTTAATTTT CATTTAATT ATCTTTAAT TAATAAAAA TAAATAGGTA TTCATTGTTT 360  
 ACTGCTAAA CTACTCGGT ATGGAATCG ATTTGCTACT TTAGCCTTCG TTCTCAATG 420  
 TCAATTAATA TATAATTAA ATTTTCACTT TATAAGTCTT ATTCATATA TTATTATTC 480  
 40 ATCTTACTT GAATAATCT TAAATTATT TTATTAATC TAATTATAT TTAAATAAT 540  
 CATCTACGAA CCTTTAAGC CATTAAGAT AACGCTAAC CCTTTGCTT ACGCAGCTG 600  
 CTGGCACAAT TTGGTTGGA NGANTTAAT TATATATCT TTTAAAAAT ANAATCTCC 660  
 45 TCATATTAAT AATTTTATAT TGANANTAAT TATCATTATT TAATAATTAT TGAATTTATT 720  
 GTTACCCANA NTAANAANAN ATTATTATT ACATCCCNAA GTACNGANCA CTTACATTG 780  
 CCAATCCCN CGGTTCCNA NAAATGATAT ATTGNANAC GGATNTCTT TT 832

(2) INFORMATION FOR SEQ ID NO:498:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 863 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1351UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:498:

10	GATCATATATA TTATAAAATA TAATAAAGAA TATATTTAAA TAATAATAAT AATATGAAAT	60
	ATTATATATA TTCTCCATTG GAGCAATTGG AGATTAGAGA TTTATTAGGT TTAACATCAC	120
	CAATAADAGA TTTTAGTTTT ATTAATATTA CTAATTTTGG TTTATATCTT ATAATTCCTT	180
15	TATTAGTAAT TTTACTAATG AATTTAATA CTAATAATTA TAATAAATTA GTAGGTCTA	240
	ATTGATATTT AAGTCAAGAA ATAATTTATG ATACTATAT AAATATAGTT AAGACACAGA	300
	TTGGTGGTAA AGTATGAGGT TATTATTTTC CATTAGTTTA TACATTTTIT AITCTATTT	360
20	TTACTATATA TTTAATTAGT ATAATTCCTT ATTCAATTCG TATAACTTCA CATGTAGTAT	420
	TTGTAGTATC AATAAGTATA ATTATTGAT TAGGCTAAC TATTATTGGT TTTTATACTC	480
	ATGGTTTAAA ATCTTTTGGT TTATTTTAC CACTAGGTAC ACCATTAAAT TTAGTACCAT	540
25	TATTAGTATC AATTGAATTA TTATCATATT TTGCTAGACT TATTTCATTA GGTTTAAGAT	600
	TATCAGCTAA TATTATAGCT GGTCATTTAT TAATGTTAT TAGGTGGTTT AATATTAAAT	660
	TTAATAGCTA TAAATATTTT AACATTTTAT TAGTTTCTTA CCCATGAATG CNAATTEAGT	720
30	ATGGTGTGTT ANAATTGGCC ACCCTANTAT CCACCTAANT TGAGGTTTT TAAATCCNC	780
	ATTTTAAAAA TCCATTTTAT TACATNNATT AANAATAANA TATTTAATAA TATCCANNAT	840
	TNAANATTTT ATAANTTTAA AAN	863

(2) INFORMATION FOR SEQ ID NO:499:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 831 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1352RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:499:

50	GATCCTGCAT CGTTTCGTGG GCTTCAGGT TGATTTTGTT GCTCTCAATT TTATCCTTTA	60
	TCAATTCAC AACCTGGCAA TCCACCTCAT GCTTTATCTT CAACGAATGC CTCATCGPAT	120
	TGCTAACCT GAGGACCATC TCCACCTTCC GTTTAACAAG CTGACCGTA TCTGTGTCA	180
	ACAGSTTTAT GGCTGGGTGG TCGACCCCA ATTGGGCATC CCAGGCAGTT ACGTATCTA	240
55	TGTTGTCTCT GGTGTTCGGA GAGAAGGAT ATGTAACGA CTGCATGTTA AGAAGGCGT	300

AGGGGAGTTC CTGCTCCCGC ACGTCCGGGT CGAGCAACTC GCTGGTGTG ATGTTGATGG 360  
 CGTCTCACA CAAATCGCTC AACAGCGAAA GCTGCTTGAA GGGGAAGCGC ACGTGGTGA 420  
 5 ACAGCGACCG TCGTCTCTG CCGAGCGGC TCGCGCGCG GAAAGGGTTG TGCTGCTGT 480  
 CGGACAAGTT CCGGAGCTC AGGAGCGGAT GGAGCATCAC GGGCGCTGC TTGCGAGGGC 540  
 CCAGGTGCT AGGTCGGGC TCGGCAACG CGAGACTTG TACTCCCGC CCGCGCGCG 600  
 10 CTGGCGAGC GCGGCTCA GTCTCTACA CCGCTGACT CCGGCACTC CTGCTGAT 660  
 GACTGCGGC GCTCTCATC CGGTGCTGC ACACACAT CTCGAATGN TTCCACCAC 720  
 CAGCGGAC AACTTTCCAC ACCCGGAAAC TCGGCGGNT TCGGAGCTT GTCTTTAC 780  
 15 TCGGATCGN TCGCTGCTT TTTGNAAAA CCGGCGGCA CCGGCGCTC N 831

(2) INFORMATION FOR SEQ ID NO:500:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 832 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1353RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:500:

GATCTAATA TTAATGTGT CTTGAAAT GTGCTGAAAT ATAAGAGCT CTAAATGAT 60  
 GTCTATCTG ATGACGATG CGTCAAGTT AGCCAATGG TACTTCAAAC GTGTAATGAA 120  
 35 TAAAAATATA CAAGCGCAA GCGCAATAAC CTTTACCTA TATATCTGT AATATATTAA 180  
 GTTAATGAA CCATTACGT GCGATATTCT GCGCTGGCAT GGTATCGTG ATTTTATAAT 240  
 ATATATTCT CCGAGGGGA GCAGAAACAC TCAAGATCG CGATTCCGA TAAAGAATT 300  
 40 GCTCCCTGAT TGATTGTGT TCGAAGGAGA TCGAGATGA TTGTCAGAA AAACCGGTT 360  
 TAAGACTGT TCATCAAACT TGTTAAACCA TTGCCATCG GCTTCAGTA TATTGCCAA 420  
 GGTTCGCGG ATATTCTTC TGCTAATGA TAATGTTCC ACAGGCTGT CAGCGCTGA 480  
 45 TCGAGCGCG GAAGAGGTC GGTCTATCAT AGGAGGAAAG CTTTCTGAT CCGGGAGCC 540  
 GGTGGGCTG TCGGCTAAA ATGGAGGTG GTCTAATGA GACATTAGCT GCACAGGCT 600  
 AGGGCTTCC ATATCAAAT CATCATCGT ATCTCTCTG TCTTCTAGC ACCCTGTCT 660  
 50 TATGTTTGA TCTCCAGAT ACCGAGTAT ACCTCCCAAT ATGATACGGT GAGAACCCA 720  
 CTACCACCA GTGCCNAAA AGAATTGAC CCGCTGAC CCGCATGCA TCCACNACC 780  
 CAGCCCCCA ATCNCCTGT ATGGTATGAC CCGCAGANAN CCGCTGCA TC 832

(2) INFORMATION FOR SEQ ID NO:501:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 877 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1353UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:501:

15	GATCGGCCCA CTCTGTGGTT CATGTCTCTG ACAAGTTGAC CACTGTATAC CAGTTTGACA	60
	TCAGAGGGCG AAATCATCAG TGTGTGGCG TACACAGAGC AAATAAATC CTTTACTTCC	120
	TGCACGGTGG TGTCGACTGT CACTTTCATA GTCTTCATCG CCAACACCGA GTCCGAAACG	180
20	AACTCGATAG TTACACCATC CCGTCTCTGG CCGTGGTGG TACGGACAT AATTAAACAA	240
	TCCGAGAATG GGGTGGGGC AAAGTCAAAG CCAATACCT CCGTAGGCT CAACCCCGG	300
	TGTTCTGGCG CGTCTTGGC GCCCAGGTAC ACAGGGGTAC GATCGCCCTG CAACTTGGAA	360
25	TGCAAGCATG TCGTGGGCA CATGGTCTT GTTCGAACAC AGGTCTCTGC AGCTGCTGCG	420
	CTCGTACTCG TTCACTATAT CACATGCCAT CGTCCGAGC GGCAGCACAG AGTCTTCAG	480
	AGGCACAGT TGCCTTATCA CCGCCACCAC TTATCCATG GAAAGCGTGT TGACCTGGAA	540
30	CTTGAAGTTC ACATAACAA ACTCACTGTC GGCATGTAA GGCAGGTCTA CAGTGGCGGC	600
	TCCGACCTGC TCCGCACATC CAGCTCCAGA TCGACCAACC CCGGGCCGCA GCGTGCATC	660
	TCTTCGCACA ACATGGTCAG ATTTCAGCGG AGCGTGTGG TATTCAGACA GTATTCTCA	720
35	GGCGGCCAAG CGCATGTTT TCCCTGATG CATGATAACC AATGCCNTAC TGCNATACT	780
	NGCNACTGAT AANTTGGGG ANGCCCCGCC NTTCACGAAG AAGATCCANG CTUCCNTCA	840
	AATAGNAANN CNGANTGAAC TGGCGNATNC CNAATCT	877

(2) INFORMATION FOR SEQ ID NO:502:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 871 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1354UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:502:

55	GATCGAACAC GCGTGTGCC GCGAGCTTAG GGTGTGTGTC ATCCAATTGA GATCGAAGCA	60
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AAAACCGACC ATGCTTGTG AACCAGAAAGG CGGATGTAGC ATGGCCCTTT CCCAACGGTT 120  
 GAGATCCTGG TTGCGCCCTC TTACCCCTGT CGTAAATTCG CGCAAAGTCA GCTTGGTCCG 180  
 5 TCGTCAGCAG CCGCTCAAGG GCATGCCCCA GCTGCGACAG AATGATCTCG CGGTCTGCAG 240  
 AAGAGTCTGA GCTCAAGCTG AAAATTTGGG GGGCTTGGCA CCGGCGCTGC AGCAGCATTG 300  
 ACGAGTCAT CTTGCAGCAC TTGTCACCT GGGGTCTTTT CCGCAGCAGC GTCCGAGACA 360  
 10 GGTGCGGACC ATTGAGAGGC CGGAGTTGG ATAGCAGATA ATGCAGGTGC GACAGCACAC 420  
 CAGACATGCG ACTGGTTGAC GATACATAAC GTGCTTGCCC TTCTTTGGCG CGCTCCAGCA 480  
 GTCCGAGGTC CCGGAGGGC GGCACGAAGT CTGCGATGGC CTCAAATCGA AGTCTGCGAC 540  
 15 CTTGATCACC CGCTCGATGA AGGGCTCGAA GTGTACACC CCGGACCGCC GGTCCCGGAG 600  
 CGGCACCACC GACAGCGGGC TCGAACAGGC AGGTTCCAG CCGGTGCGCC AGCGCGGGCG 660  
 GCAGCTCTGT TGCATGCTC NINCCACCC ATTGCTGAAC GCGCCNTGAT TACAAATTGT 720  
 20 TONCTCCCG GCGCGCTTG CCGCGGTGC CCGTCCCGC CGCGGCACC CCGCNCNNNT 780  
 GGATGANNGT TONCTGATTN NCCAAACCGG TTCANNTTGT CCGTTTTTNT CANGNCANT 840  
 25 NCCNNTCNT TGTNCCNNT NAATGCCNC N 871

(2) INFORMATION FOR SEQ ID NO:503:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1166 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1355RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:503:

40 GATCATGGCC AAAAAATTGG GAATAGGAAA CTGTTTCCAG TACTCATCAA GGTGAGTAAA 60  
 AATGTTTGCC AGCAGTGAAG ATTGCATCCT TATCTTGCCA TTGCGGATA GGACATTTGT 120  
 TTGATATAC CTGTGGTGAG AGGAAAAGAG TGTTGOCAGT TGGGTAAAGT CTGTAAGAAA 180  
 45 CAAATAAACT TCTCTCTGG AAGTCTTACC GTACCGGATT CTATTCAAAA TCCTCTCCAA 240  
 GTCTGGGCA TCAAGCAACA TATTATTTAA CCACTCAATG AAGATATTAC CAACTTCGGT 300  
 TGAAATGCAC TGAAGTGGT CCAATCTCTG TTGTATCTGA TCAATATTTA TTAAAGGCTT 360  
 50 TGCAATCCAG TTCTTCAAGT TCCTTAACCC GTAGTTTGT CTAGTATGAT CTAATACCCA 420  
 TAACAGGGAG CTTTACTGC TCCTATCTGT ACTGTTCTCA AAAATATCTA AGCTTTCAAT 480  
 AGCGCTAAGA AGGAAGAATC ATGTGCGTCT TCGAGCAGAA TGGTTTAAAG TTTTCTTTGA 540  
 55 AGAAGAGTAA ACNNCATT TTGAAGTTTG TTAGGTAGCC ATGCACCAGC ATGAGCGCTG 600



TTTGCAGAG AACGTTGCC TTAAAGGCTG GGTGGGCTC ACTGAAGATT TCTTCATACA 660  
 ACCCGACGAG CTGGATCTTA TTTAGAGTGA TATCGGAATC TGAAGTATGA AACACCTTTT 720  
 5 CGATTCTGA GCCAAGGCCA TCTCCGACCA CAACTTCACT CGGGTTTGTC TATTTTATTC 780  
 GGGTCTCCAA AGCTCCGTC AGAAAAGCT CCTCTTTGAA GTCATCGAAG ATAACCTTAC 840  
 CGCTGTGAG ATTAACACTA ACCAGGAAGT ATCGCGTGA TGAAGGTTGT CGCTTGACA 900  
 10 CAAGACCCCA CACAGAAGCG CTATCACCCA GGACCGACG ATCTTTGGTT CGAACGTC 960  
 ATTGATGCA TAGGTAGCCC TGTGATAT ATTGGTACT TCCCTCGAGA AAACAGAGCT 1020  
 TGAGTCCCA CTGTCTTTT TCACTGGGA TGTCTGTGTC TGCTCCAGA CCCCCACTTT 1080  
 15 CAGATTGTG TCATCAAGC GCTGCAAGTG GACTTCAGA CGGGTGTCTG GGAATGGTGC 1140  
 AGTACCCAAA CTCTTTGTC TTGTGA 1166

## (2) INFORMATION FOR SEQ ID NO:504:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 887 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1355UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:504:

GATCATGCTA TCAAGTGAG AGAACCGGA TAGAGCTAC TCTGCAGGTT CGGCCTGGCT 60  
 GAGCGCGGG CAGAAGTGA AGAAGCGCC AATACCGCC TTCCGGCAGC AGAGGCTGAA 120  
 35 GGCCTGGCAG CCGATCTGT CGCGCAGAG CATCTGCCA CTGCTAATAT TGCTGAGGG 180  
 GGGTTTGCG CCAATCGGA TTGCGTGAT CATAGTGA AACAACTGC AGAACCTGGT 240  
 GATGACTAC AGCAGTGG GCAAGCAGC CAGTCCGAA TACAAGCCA TCCCGAGAA 300  
 40 CCTGGTGGC TACCACTTC GGAAGTCCAT GTCCGACAG CCTAAGTGGC GGCTGCATTC 360  
 CAAGAATGAG TCGAGCTAG AATTGAGAT CCCCACGAC ATATCGAGCT CGGTGTACAT 420  
 ATACTACAAG CTGACGAAT TCTACCAGAA CCACCGCAAG TACGTGCAGT CTTTCGACT 480  
 45 CGACCACTT AAGGGCAAG CTGTTGCACC AGACAAGCTG TCCGACAGT GCCACCGCT 540  
 CTGACTAAG GACGGCAAG CTCTCTATCC CTGGGCGCT ATCGCCACT CAATGTTCAA 600  
 CGACACTTC ACCCGGTCC TCCGGGTGT CCAACGGCT CCCCCACTA CAACTCAGCC 660  
 50 AACAAAGAAC ATCGCTGGC ACACGACCG CAACGGTNN CAAGAAGAAC AAGCTACAAC 720  
 CCGCCAGANA TNGTCCGCC CCGCGCTTG GCACGAAGT TTCCCCNAA TGGTANNAC 780  
 55 AANCCAACCT GCTGACTNN CTACTTGGGA GAATTTCGG TMTGGANTG NNCCCTGCAG 840

NOTGCCNCCT NNTAAAGCTN CNTNCAAAAA AAAAGCAACN CCGTCCC

887

(2) INFORMATION FOR SEQ ID NO:505:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 823 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1356RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:505:

GATCTACATA TGCATCAAAA CATGTGCCIT CATGCCATC AGTAGTTATG TTTGGGCTGA	60
GAGGCGAGCC ATTTCAGCT TGTCTGCACA ACTCCATATC ATTTCATCA TCAACCTCAT	120
TATCGCTATC ACCATCCTTA GTGAGTATG GAAAGGAGGG TGACACAGCA AGGCCAGAGG	180
TATCAGTTGA AGACATATCT GTGCTCATGC GGTGGGGGGC ATCATAGTCC GATGACTTCG	240
TGGAGATTIT AAAGTCATTC TGGGAGGAT TCTGTGCTC TACTGACCTT GCAGATTCTT	300
TTTCACTTTC GTACAGAATG GACTCATCTT CGAAGTTGAG ATCTATCGGT TTGTGATCAT	360
ACGGACTCT TTTTCAACC TTCTTCTCG TCATTGCCAC GGAGTTATC AAGCTAGAGC	420
CCAAAGGATG CTGCTTATCA AAGTCTCTCT TAGCCATGGG CATTTCGTAT CTATCATCTA	480
TCCCTTGCTT CGAACCATAC TTCACTGCT AGCCACTCT TGTATATATA TAGAGTTTC	540
GATAATGCTT CGTACCAGAA CTACCGGCAC TGCTAGACTC CAATATGGCT TGGATGAGGA	600
CTGCCACGC GAAGTTTACT GCATCCATA TCAATTGGG CNTGGCTGCC ACATTGAAA	660
ANANTAAGAA GAAGTACGAC TAATCTTCCA CTNGCTAACC CGTCCNTAGC AGCGAACCGG	720
CTGCTGTCIN NNCATCCAC CCGGTGCTT GCTTAGCTCC TACNCCNTG TGGTTCCATA	780
ACCCACCCCG TGTCACCCA TCCCTGANC ATNTGAGAG ANN	823

(2) INFORMATION FOR SEQ ID NO:506:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 873 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1356UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:506:

GATCTGAACC ATATTACCAA AACCAACAA AGAATTGGG CCAAGGAC CCGTCCGGC	60
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GTAAAGCCCT ATAACCACT TACGGGTCTG TGGGCGCCAT AGAAATTTCG ATTTTCAACG 120  
 GAACCAACAC GTCAATUCCA AACTACACTT ATCATGCCCT AAAAGGGATT ATCTTTTCTA 180  
 5 ACCAGGAGGC CGGCTGCGC AGTAGGAAGC GGATCTTAGC GGCGTCCGGC CGGCACATTC 240  
 GGGCGTTGGA CTGCAATATC CTACTTCTGC AGCGGAAGAT AGGCGACGAA AATCTGCGGC 300  
 GGAGCAAGCT CAGAATTATA TGTAGGACCA AACATTGTCA GCAACGCGTG CGCGAGTTTC 360  
 10 TGTATCGAG TAGGGGGATT TCTGGAAT GCGGTTCCTT TTTATCGTTC CTTTTITGAG 420  
 GGGCATCTGC AGAAGGATG AGGTCCAAAG CATCTGTGTG CATCGATCAC CGAGCCACCA 480  
 GGGCAGGTAG AGTAAAGCT AGTCACCATG GTGGTAGTTG ATAATAGCGG CGGAGGCGCA 540  
 15 TTGCGATACT ACGCGGGTAA GCTGCGAAAC AAGGTAGCGA CGCGGCGCGG GCTTTTAGGC 600  
 GACTAGCACT ACAAGTACCT GTTCACGCGG CAGATATTC ACGCCAGAG AAGCTTCAGC 660  
 CATTTCTTCG ATCNATGCAA AATCCCGGT GTGCTTGGG TGCGNTTGG GGNINCAINC 720  
 20 CCGNCGAAN NCTGGCGGT TNNNTNCC NCCATNNTG AATACCGNG GNGGGAANTT 780  
 TGAAAGNNA NCCNACATC TTATTGGCT TNCNGNIGT NGAAGGGGC TTNNTNNAAG 840  
 GNGAATANN CCTTGNGAA TCTTAANAA AAT 873

## (2) INFORMATION FOR SEQ ID NO:507:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 840 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1357RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:507:

GATCCAGCG AGGACATCGA AGAGGACTA CTGTACCGCA TGGACAAGCT TGGCTGCGA 60  
 TTGATGAGCG AAGACCGAGA TGAAATGACA GATGCGCGA CGTGGGAG CGTGATCTGG 120  
 AAGGAAATGT TTTCTGCGT CGGTATGGTG TCCAGGCTCA TGGTAGTACC TGCATGATTC 180  
 45 TGTCTTTCCG TGATCGGCTT CATGGTGGGC GTTAGCGACT TATAATAGTC GGTGCGGTT 240  
 GCTGCGCAA GCAGCTGGCA TGCAGTGTG TCCGACAAAT AGGAGTACCG GTTGGTGTTC 300  
 TTATTGTGGG TGTGTGAGA AATGTTTCCA AAGGAATAGA AACCAATTTC CATGGTGGTC 360  
 GAGGCGACTT GCGAGTTCTG TCGGGTGTG TCGGCGACAT GACATTTTCAT TTCTGTTCCT 420  
 50 CGGCGCGCTT CCGCAGGAAA ATCGCGCGCC TGTGCGCCA TGTCTCTTC CTGCTTGTGT 480  
 CCGTCTGTG CCATCTCCCC TAGGGCTTG CCGTGAAGAG TTTCAAAGCT TTGAACTTC 540  
 AAGGAGGCG AGCGCGCGC CAGGAAACGA TATCGCTTCA CTCTCTCA GCTTCCGAT 600

AGGCATCTCN ATGCGATTTT ATTAATATAT TTCCCCCGTC CGAACCCCAA ATGTATGTCT 660  
 CCOGGTGGC AAGGGATTCC GACTTATATA TTATTTGATG TCCACCACAG GTTTCNAAA 720  
 TATTATACAT CNATGCCNA ACCTCCOCNT TATNCATCAT CCGACCCNC CACATTTGTA 780  
 CACACTAACN TGCACATNNC CCNATNNNT AACCCATCAA CACACCTTNC CTGCCCATCT 840

## (2) INFORMATION FOR SEQ ID NO:508:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 888 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1357UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:508:

GATCCTCGCG TTCCCATGCA ATTGTGTGTC TTCGGTTGAC CCGATATGAC CTCAAAACCG 60  
 GGTCCGAGC CACCAGCAAC TTGTGCTAT GTGACTTAGC CCGCTCAGAG AGAGCAGTGA 120  
 CACAGATAGT ACGCCGGAAG GAGGGTGGT TCATCAACAA GTCAITGCTA GCGCTTGAA 180  
 CCGTCATAGC CAACTTAGC ATGTTGGGAA GOCAGGCAA TGGCCTGCAG CCGTCTCCG 240  
 CAGCCGGCA CATACCGTAC CCGTACTCAA AGTTGACCG CATCTTCAG CCAGCATGA 300  
 CAGGAGACAG TATCATTAG ACCATCTGCA CCATCGATT CAAAGCCGAG TCTCAACCG 360  
 AAAGACCAA TACCGTCCG TTCCGGTCTC GCGCAAGAA TATCGCCTC AAGTGGCCA 420  
 AGAATGAAAT GGACTGCGAC GCGAGAAAG ACACATCAT CCAGACTTG CCGAGCAGC 480  
 TTGACGAGCA GCAAGAGACC ATTGTGATG TCCGCGCAG TCTTCAGCG CCTAGCGCA 540  
 ACGGCTGAC CAGCCCGCTG GACAGCCCTG GGTGCGCG CACCCAGCTT TGAGCGAGCG 600  
 CAGCCACAA CATTCGAAA AAGGNTGCT AAAGGTGAA AACAGCATC TCCAAGAAGA 660  
 ANCTCGAGC CATTCGAAA AAGGNTCTG AANNAGGAA TGATGTCTC CGAAGAACCG 720  
 CANTTTCNA NATTCCTNAA ATCTCCCCCT TGGAAATCC CCGTCCCCC CAAAACCAGG 780  
 NTCAGGGGT TGATTTCCNC NGCCCATTA CCGNTTACT TTCAAAANTA AATNCACNCC 840  
 CCCAGGNCN NGAAAATNEN TTCCCCCCCN TMTGGTTC ACCGCCNA 888

## (2) INFORMATION FOR SEQ ID NO:509:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 833 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1359RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:509:

10	GATCCATGTT TATTCACCCC GCTCACTCCG GTAAACGATG CTTTACGTTG CTCACATCCG	60
	CGCCACCATT AACACGGTAT CACATTTTAC GTTCCCGTGC AGCAAAAAGT CGGTCCGAAC	120
	ATAATGCTCC AATACCAAGA TAGGTCCGGG CAAGCGCTA ACACGTCCCA TCTCTCTCGC	180
15	CTCCCCACGG GCGCTGGCG CTGTCTCGA TGAAACTCC CTCACGGTA TGAGCGGAG	240
	GGCATTCGCC CTGCCATTAC TGCAGCCCC ACGACAGGT TTTCCATGTC AGCATCGACG	300
	GCAAAACCGC AGAAATGAT AAGTAGCAG ACACGGTCA GAAAGACCAG TGTGGTATCA	360
20	TGGCGCAGA GGAGCTAGG AACCTCGCTT TTCCGCAAC ATGCCCGGC GCAGGTTGGA	420
	ACGGGGAGC GCTCAACAA GCGCGGATG CTAATGTCC TTCCGGCCAA AGGCGTCAC	480
	AGCTAAAGA GAGGCGCCA CGAAGGCATA TAGCTGCAG GAAACGATAC GATTACGDC	540
25	ACTCGCAGC TAAGGAACAG GAGCATCACA TCGAACAGTC GCCTGIGGIN TCCATCCCTG	600
	AAGTNGACA CTAACCTGAA AAGCGGGGT TGGCACTAAN TACAAACNTT ACCACAGTAG	660
	ATGCCNATA CTGCTGACAA ACGAACTGG ATTNCTNACC GGTGCTENG ANANAAATCT	720
30	NCCAAGAACN TTNAACNAA TTGGCCACTA CCCCCTTGA TCCCTCTTN ATCNCACGGT	780
	TTGGGANCCT GNGNCAAAG CCGTCATGNN ATCCCTGACN AANTGGACT NNT	833

(2) INFORMATION FOR SEQ ID NO:510:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 871 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1359UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:510:

45	GATCGGTGTA GTACACGGTT TCCGGGCGCG CTTCTGGCAG AGCAGCTCCG ATCACCAGCG	60
	TACCCAGAA CTCGCCGGC GGTCCCAAC ACTAGTGGT GCTGCTGATG CCGGCTTCT	120
	AGTGGTTGCC TATTTTATTC CTCGCGGCA TGTTCGGCT GTACGGCGT ATCTCGATGT	180
50	GGCGAGCAG GAGGCTATC TTCCGAGAC CGTTCCTGTG CATCTGGTGG CACCACGCA	240
	ACCGCCGAC GAGCTGGTG ATGGCTGGA CCGCTGCC TGCGATTGG TTCTGACT	300
55	ACCGTGGTA CAATCGTCA TATACATCG CATCCCGAT GCGGCACTT TTGTGCTCC	360

AGAAGAACTG CAGCGCACTG CTGCGGTCAT CGCGCACAAAT CACGGGCCCA GTGGGCCCAA 420  
 CTACGAGTAT CTGAAGCTGC TCCACAGCGC GCTGCACTCA ATAGCGGAAA GGTITGGCGC 480  
 5 CCGTITGTGC GAGCTGGAGG ACCATTATCT GGACGAGCTG CTCGAAGCGG TCGACCGTCT 540  
 ACCGGGCCAG GCGTGTGCGG CGGTAGGTGC CTGATCTTCT GCTAAACCCA CGCGAAACA 600  
 AAGATAGCAC CGCGCGCTCC GGTAGCGGC CGCGGTGCT GACCACTTGC TAGCGTTTAC 660  
 10 TTGCATACCC GATCTGCTT TAACCGTTTG GAAGGTTTAN CATCATTAGT TNNITTTGTC 720  
 GCTTGTCTGC CCGTGCNTG GCAAGGGGCG CCTATTTTAA NITACGCCC GNTTACGNC 780  
 NCGTGAACAA AATGAATTC NITTINGANAN TCCCNATTT TNAGGATATC CCGGTTTGA 840  
 15 ATTGANA AAA CTGATTTGCC NTTTTNINT A 871

## (2) INFORMATION FOR SEQ ID NO:511:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 850 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: DNA (genomic)  
 25 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1360RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:511:

30 GATCTTCTC CTCGCACTC ACAGAATATA TCTGCGGT CATATCTTC GCGTCGAAA 60  
 TAATGAACG TGAGTCCGC GACCATGTGA GCGATGTGAT GTGGGCGAAA TGCCCCGGT 120  
 35 GGACCGGTA GCGCACAAA GCGCAAACT GCGCTCAGC ACTGACCCCT GGAGTCCGC 180  
 AAATCTGAAG AAACCTCCA CATGCCAGAG CAAGAGCTT ACGTCTGTG GAAACTTCA 240  
 CGTGTTTTAC TTGTCTTA AGTTGAAAT GATGTATCAC ATTCTCTGC TTTATATTCA 300  
 40 CAAGGATTGC CCGACGCTC AGGTCAAACG AAAGAAGCAG TGTACCTTG GCATTGACGT 360  
 CGATCTCTCG CTATATTCT TCTATGCTCA TATCAAAGG TAAACGACTT GTTACCAATC 420  
 AGGTCAAACA CCGATACCT GTTGCCAACG GCGAGAATA GCAGGTTTC ATTCTCGAA 480  
 45 AACACACAT TTCCCTGTCT GTATACAGTG CTTAGCAGAT TCGAAAACIT GAAATCAGAC 540  
 TTATGTGTAG TCAATGCTT TGCTTGTCT GATCTTTTCA TGGTGTACT CATCTCATCT 600  
 CGAATTAAAT TTTCCTTACC ACCCAAAAA ACANATCTC CANTGCTC TCAAGATTAT 660  
 50 ATATATATGT TCGAAATTG AANATCCACT CNTCTAATG GTACACGTC ATATGAATGT 720  
 GTTNTTTTGC TCCANTATCC CACCATTCAC CACTCCAGA ATGGGAATAT ATGCCAGGAT 780  
 NCGGCACT TCACCTGTT TTGACANAT TCTTGAGNIG CTGACAGCTG AGAAAAAGG 840  
 55 TCAAGGTAT 850

## (2) INFORMATION FOR SEQ ID NO:512:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1360UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:512:

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GATCGATGCA AACCAGGACA ACTACTTAGA AGAGTGCTTG AAAATTAAAA GTGTATTGAG      60
TGAATTTGAA AATGACGTAC CGGATAAGAC AGATATCAGA GGAGTTCTCA ATCCGGTTGC      120
AATGTGTGGT TCCCGTGAAC ATGTGTTCTC TGAAAAAACC GGTGTATTGG GAGATCTGGC      180
GGCTGGAAAG GAGCAAGTAT TCGGAACATT CTTTGCAAGT ACCCTTTGGT ATATTGGTGC      240
AAAGTTACAC TATGGCCATC CTGATTTTGT TAATGCTATA TTGTGACTA CCAGAGGTGG      300
TGTATUGAAA GCTCAAAAGG GCTTACACTT AAGCGAAGAC CTTTTTGTG GGATGAGTTC      360
CATATTACGT GGGGGTAGGA TTAAGCATTG CGAGTACACT CAATGCGGGA AAGGCGGTGA      420
TTTAGGATTT GGGTCCATTT TGAAGTTGCG TACTAAGATT AGTGCGGGTA TGGGGGAGCA      480
AATACTCTCA AGGGAATACT TTTACTTGIG TTCAAATCTC CCACTCGACC GTTCTAGTT      540
TCTACTATGC ACATCCGGGA TACTACTTGA ATATGTTTCC AATATCCCTT CTAACCCCTT      600
AATTANENAA TTTANTCCCG NATTAATGGC GGTCTGGTC AANCCNACCA AAAATNNNA      660
NATTCNTNFA ACCCCCCAAN CTGCAAAATT TATTGTTGCC ATPNAACCCN TAACCAAGGT      720
NCCCCNTENC GNTNANANA TCNNTNCCC NCCGGTNCOC TTCCAGTTT TGNAGAAAA      780
ATTFAAAAAC CNACNCCGGG TTNCCCCGAA AATGAAACTN NTANAAGNGC CCCCCTTCAA      840
ATTPTTTTTT C                                                                851

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## (2) INFORMATION FOR SEQ ID NO:513:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 831 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1362RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:513:

GATCATAAGC TATTGGGTAC CCGTGTGAGC CTAGCCTTAA AATAATOGAC ATTTTGGAAAT 60  
 TTAGTTATTG CGTGGAAATA AGGTATATAT ATTGCTTCCA AGTTTAATGT CGCTTTTAAAC 120  
 5 TCACTAAAAT ATGGATGFAA ATGTCTTCAA TTGGACTTTC ATGTTCTATC TATACACTAA 180  
 CTCCGATGCG ACTCATTTGTG CTTCAGTATT CAAAACATGT TTTATATATG TAATATGCGG 240  
 ACGTAGAAGG CAACTAAATA TGAGAGGCAA CTTAGTUGCT GTCGCTGTGG CTGTTTGAAT 300  
 10 CGCTGGAATC TTTTTCATAC ATGATCTGCT CGCATTATC TTCTTTTAGA ACGCTAAGTT 360  
 CCAAGTCTTT ATGAGATTCC TTGTTCTCTT GAGAGACCTC GTCATCAAAG ATGATCTTTG 420  
 TGTTCGAAAC GACAGGCAGG TTTTCTGCTT GCGACCTGTG ATAGCCTTCA CTTAGCAGTG 480  
 15 ACCCCTCGAG GGACACCATT CTGCCCCGAG TGTAGACATT TTTAACAGTA AATTITGAGTT 540  
 TTCCGTCCAG CTGCTTACCG TTGCGGTGAC CCAGTGGCCT AGAGACCGGG CCTTGGGCAT 600  
 CCGTGTGGAG AATCGTTTGG CTGCTCCCGT TGGTACTCTC TTGGTTATGA ATAAAGTCCA 660  
 20 ACCATCCGGA ATGTTATTTT CTAATGAAGC GTTTGAACCT CGTGATCCAN CAACCATNTT 720  
 GTTGAGGTGA CNNTTGAAAT CCNCCNCGA CNATCCCNAT TTTNGGACA NCNCAATTT 780  
 CCCNGCCCCN NITTAANCAG GNTATCTGNT CCANTGANDA CATCTCNCTT T 831

## (2) INFORMATION FOR SEQ ID NO:514:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 854 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1362UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:514:

GATCATAGCT GCAGGCTGCC AAGCAGACAT GCTGACATCA TACAGCCAAG AGAGCAGCTA 60  
 CGCTGTCAAC GAGCTGGAAC AGAGGCTAAA CGAGTTTCGC ACTAAATGTA GAAAAAATGC 120  
 AAGCCACTTT CAGGCACTAC TTTCCTGCTT AACTGAGATA GACCATCCCG ACAGCAGCCC 180  
 45 GCTAAGTCAC CGTACAGTAG TCTTGACATA CATGGAATAT CGCTAAGGAA CGAGGTGTAA 240  
 TAGGACACAA AATCATGAGA AGAGTATTGG CTGTGTGACG ATGCGGTGGG CACAAGATCA 300  
 AATCGGTGCA CAACAACGAG CCACCTTGCT CTTACTGCCA GCACAAAGGC ATAGCGGAGA 360  
 50 AATCGGTGTT ATCATTTTCG CCAAGAAGA GCGCAAGAA GCGGAACTA TACTTAGAAG 420  
 GGGTTGGCAT GCGCCTGGGC GGGTATCCGG TGCAGCAGTT GGAAACTGCA GATCTGCACG 480  
 AGCATAAAGC CAGAGCGGAC GGCTCTGATG AAAGCCAAGC TCTGTGTCAT GCGCAGGACT 540  
 55 ATACGATGCG GAGCAAGCTG CGCAGATGTA CGAGCTGGCC AGCAGATGTA CTACGCTGCG 600



CCAGGGGTAC TCGAGGGTGA TGTCAGTAG TCGAAGGTT CCCAGGCGG TTGATTCTOC 660  
 CGCCAATTGC CACCCGGATT CTAAACCGAA ANAATGCAAC NCATGGAACC NGCCTACTT 720  
 5 TMTGGACTG TCCCCAGTGC CCNATGCATN GTCCACTTGC AINGAGANNT TGTCATCCTT 780  
 CCCCAGTGG NTGTTTANAT GANACCNCCC AAGAATACCC CCGACCGTC TTGGTTCTT 840  
 TTTGCCCCCC NCT 854

## (2) INFORMATION FOR SEQ ID NO:515:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 853 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1363RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:515:

GATCATTATC AGCATTAAATC TTCAACTGCG CATTGCCCTCT TAAACCAATA ACAAACCGG 60  
 CAGATTTGCC TCCAATTGCG TAAGGATCCT TTAACCCCTT GAGGATACT TCAAAAAGCC 120  
 CTTCAGTAGG CCAGCGAATA TTAATCTTGG CATGGAACAT ATTCTTAATT TTATCCGAGA 180  
 30 AGCCTATTTT CTGGGATGGA TCAACTGGAG GTTTCGAAA ATTGTCTAAA CAATTCATGG 240  
 CCTGTGTGAT AGCAGCTTCA TAAGAGCCAC CCCATGTCAC CATCGTGATG TCTTTGAGT 300  
 GTATATCCAT TGTACCTGA CTGTAAATTT TAATAGGCGT TAAAGACCGG CGGAAGCGCA 360  
 35 ACGAATAATA TAGGTCTATC TCAGAAGAAG TAACCGAAGG AACAAGCGGC ACAAATATCG 420  
 TTGCTAGCTC CTGGGTGAT TGAATCATAT CCTCCAGTAA TAAAGAGGTC ACCATACAAA 480  
 TGTATAGCGG GAAAAGAACC TTGTTGGGAA GGCATAGCTT CGGCATATGG ACTAAGGTA 540  
 40 GTNGGGTAA CCTTNAANA GCCCCCTAA TTCACCCANC TTGGCTTCCA ATNTAAAAGG 600  
 GAAGCCNCCA NTAATCTGG GTTANTTTIG GAACCCNTT TNCNCAAN TTTAATNAAT 660  
 TCNNTTTTT ACCCTTCCA CATNANGCT TAAANINCA TGTTTTACC CCCCNGCCAA 720  
 45 GANNTCNCC ATTTTGGAAA TGTANANTC CANACCCCT TNCATNTIN NAGGANTTC 780  
 AACTGTCCNT TTNCCCCAA ANPTAATCC CCNAAAAAT TCTTCTCTCC TGGGNTTTT 840  
 CCCCCCTAC CNT 853

## (2) INFORMATION FOR SEQ ID NO:516:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 858 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1363UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:516:

5		
10	GATGAGGAT ATTTCCGTAC OCTGGATGTC GCTGATGTC AAGTACATGG GTGATCGGTT	60
	GGCCTTTTCA GTGTGCTTC AAAATATCAA GCACAAATAG GTCTGTCTGC TGAAGTCTGG	120
	TGGCTOGAG GTTCTCGGT GTTTCACAAA AGACAGTCCC TTTGGACTAA CATGTGTTGA	180
15	ACTGATGTC AAGTTTCTTC AACTCACAGT GCTGTGAGT AACCTACTAG CACTATTTAC	240
	CTTGGGCAAA GAAGAAGATG AGGAAGTGA AGGCTTTGCT CGTAATATTT TOGATGCCAT	300
	GACCGAAGAT CCACAACGA ATGCACAGAA TTGTGTGGAG ATGATGAGAT CAAGAGTTAC	360
20	CAAGTTGCAT AGCTACTTTT CCCATCTAAC TAAGGTGAT TTTTGTGTG ATAAGGTTAA	420
	OCTGGCAGAT ATACCACCCA GCTTATGTC TGAGTTGTCA TCTGCTGTG AGCCTTTGAA	480
	ATACGAAGTT GCGCTTTCTA GTTTTACTTT TCAAGTACC CGTTTATGCA CCGAACAGC	540
25	CAGGTATAGT ATCCTTTTCA AAAGTCTGAT AGACCGTAGG GTCGGTATCA CATGTGATC	600
	GTTCAGTGC GCTCTCAGTT AATCCCCCTA AAATCCCCCT GAAAAGGCTC CTGAATACAT	660
	CCGGTTTTTG AAGTTCCCAN TTATATCCAT ATGGTGANAC TATACTTTTC CTGAAAATTT	720
30	GACTGTCCA CGCTGTTTCT GANACAAAGT CAATGGTGG CAGTTTCTUC CCTACCTAA	780
	NATGAAATG AAACCCCCAN CTTGAACCCC GTTNGCAATA CTGTANGACT ATTNTTCCN	840
	CATAACCCCN CCACGAN	858

(2) INFORMATION FOR SEQ ID NO:517:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 842 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1364RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:517:

5		
50	GATCAGATCG ACGTCACGTT CGTGGCGTG GGCACACCTA CCGACAAGGA CTGGCCTGAG	60
	GTCTGTCTCT TCAGCGCGTA CAACAAGATC CAGGTATACC CGCTCCTGTC GCGCAGCGAG	120
	CTGGCAGCC GCTTCATGCG TGCAACTGAG AATGCGCTCG AACTGATGTC CCGTATGCTG	180
	ACGATGGACC CCGACAAAGG GTGGGACAG ACTGTTGCC TGCTCAGTCA GTATTTTGTA	240
55	GAGCTTCGG AGCGACACC TCCTACGGAA CTTCCAAAAC TAAATAAGTA ATGACTATGA	300

TAACCTAGAT GGTATACTUG GACGTTTTGT GTTTGTGCTT TGAGGCGATG ACATTGGCTT 360  
 TTATGGTATC GCAGACGTTG CCTGAAAAAG ATTCAACGTC TCGSTAACAG ATTTGCGCAG 420  
 5 ACTACTTGTT GAAAGAACAA AGACCAAGAC GCTGGGATGC TCACCCCAAT GAGGAACCCA 480  
 CTCGGCTTAA TTGGCGCTGG CTCGAGGTC CTTAGCACCA ACAATAGGCC GCGACTGCAC 540  
 AAGATCTTTC CCTCCAAGAA GCTGGTGAAC AGGATGCTGT TCGACCTTG ATAGCCGACT 600  
 10 GACCTTCCGG AAATTACTTG CTTGTATAC GAGCAGTTGT ACACCCCAATT AGACAGTTAT 660  
 TACGGCAAT TTGTATACC CCGGCTTG ANGGCCGA CTTTATATCC TGAAAAGNIG 720  
 CTNGAAAAA TCCCCGNA NGAAAANNOC ATGCCATCT ANTTGCTNG AAACAACGTC 780  
 15 TTTACTGCTG CCAATNGAN ACCAAAATON CGGCGTACC TTGACCTINT CACCCGCTNC 840  
 CT 842

## (2) INFORMATION FOR SEQ ID NO:518:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 869 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1364UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:518:

GATCTAGTGC TTCACAAGCT AGAAGCTCCA ACCATGAAAG AGGATCGAT CCTGAGAACA 60  
 35 CTTTTCTGT GGAGCTTAT CAATGCTCTT TCTATCGCA GCTTCTTCCA GCGAGATGAA 120  
 TACTGGCAGT CGCTGGAGCC TGGCATGTT AAGGCGTTG GATATGGTGG GCTGACTTGG 180  
 GAGTGGCAGC ATGGGCTGG CAGCTATGCA TTCCCGATGC TCTTTGAAAT GTCGTACTAT 240  
 40 GTGGCGTGA TACTGGTGT GGCACCCCG ATGGGCTGC AGGGGTGGC ACATGCGAGC 300  
 GCGCTGTGT GCGCGTGT GCGAGCGGC GCGCGGCG TGGCGCGAT GAAGCGCTC 360  
 TGGAGCTGC CGAGGCAGC GCAGGAAGTG GTGGAGTACT AGGGGTATT GTACGGGCG 420  
 45 CGAGTGGTGA TGGGCGCGT ACCAGCGTC GCGAGTTCT ACAGCGTCT GCTGGTGGC 480  
 AAGCTGTATC TGGAGTGC GATAAGGGG GAGACCCAG AAGGCGAGC CGCGCGCGT 540  
 CAGCGGTG GCGCTGAATG CTGACCATGA CAACTTCTT CAACTGTTT TCGCGAAG 600  
 50 CAAGTTCAT CACTCTNCA AAATAACCC CACGCGNTC CCTCTAAC NATTTGGATT 660  
 GGANCCGGG CCCANCTTG GTTCTNTGG GCTTCCACN CAACTTTNGC GGTGGCTGCN 720  
 TTGCGCTGC CTGCACGCC NATACTTTT ATCTTGGCT CCTGCGTGT TCTTGTGCA 780  
 55 ACCTGTGCC CACCAAAGGT GCACTONNT ANDCTGCC TAGGTGCC CCGCCCCGC 840

GGGTTTTTCN ATACCANTNA NACNCTOCT

869

## (2) INFORMATION FOR SEQ ID NO:519:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 839 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1365RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:519:

GATCTGCCGC CGGCGGAAGA CGCAGAGGAA AGCGAATCGA GCGCGGGAGA GCGCTACTCG	60
ACCGACAAAA GCAGTTACGC GTCTCTCGTG CAGGCGGTGC TCAGAGGAG GACAGCGTCG	120
GCAGCCAGCG CAGATACAGC AATGAGCAGT TCAACGGCAG CCAGCGATAG CGCGGGCGGC	180
GCTAAGATGG ATGCAGCGA CCCAGATGAC GCGACGCGCA GCTTCGAGCT GCGGCTTGCA	240
GCGCTCGGCA CGCAGGACCC GCGTGTGGAC AGCGCAGACA CGCGAGCGG CGGTCGCGG	300
GCGTCGCGCG CGCGCGCGCT CAGCCCGCGG CCCANCGCG CGACCGAGGG GTCGGACGAG	360
GCGCGCGCGC CGCTGGAGGT GCGCAAGCAG CGCGCGGAGG CGGCGACGGC GCGCGCGCGC	420
GAGCGCGTGC GCGCGCGCGC CACCAACCCC TTCCCGGTGA TTTCGGTGG CGGCTCCAGC	480
ACGTTCAAGC GCGCGCGCGG CGCGGACGGG CAGGCGTGGC GCACGTGCTC CGCGGGCGAC	540
AAGCGCGCAC CGGTGTCCGC GAACGACAG AGCATGCTCA AGTTGCGCG CNAGCNCNC	600
TACCGTGAAC ATGAATTONT CNACTGTCA AAGANATTAA TTTCCTGANA ACNTGAANAA	660
ANCGGTCCCT GTNCTGAAG AANCCCCCN ANTAACNACC CCGTNGACAG CTONGATTTC	720
CTCNCCTTA TTNTAAAAA TTTCAAATNC GGTGGTNCCT TCCCCNCNTN CCGAACNTTT	780
TAAAANGTTC CCACGGONIN NIGNNCCCN NATTTGGCCC CCGTTCCNT TNCCNGGT	839

## (2) INFORMATION FOR SEQ ID NO:520:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1365UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:520:

5  
 10  
 15  
 20  
 25

GATCAAGTGA CGTTCATGGA GCGTCAGCA CTGCAGACA GCGAAGCGGT GGTGGGCGG 60  
 ACGCGCGCGG CGGCGGTGCA GCTGTATGTG GGGCCCCGGG GCGGGCTGGG GGGGCGCTG 120  
 CCGGAGCGGC TGGACGAGTT GCTGGGCGGA CCTTACCGG CGAGCCCACT GCGGCGCGG 180  
 TGGGATGTGT ACTTTATGCA GCTGGGCGG CTCGGGGCCT CCGTTCCAA CTGCATGAG 240  
 CCGCGTGTGG GGTGCGTGAT TGTGCGCGC TGGCGGTCA TTGCCACCGG GTATAATGG 300  
 ACGCGCGCGC ACTTGGGCAA TTGCCAGAC GGGGGTGGG CGGCTGCAA CCGCGCGCGC 360  
 AGTGGCTGC ACACCTGTCT CTGCTTACAC GGGAGGAGA ATGCGTTACT GGAGGCGGG 420  
 CCGGAGCGG TGGGCGAGG CCGGTGCTG TACTCGACA CCTGTCCGTG TTTGACATGT 480  
 TCGGTGAAGA TCGTTCAGAC GGGATCAG GAGGTGTTT ACTGCGAGC CTACCGGATG 540  
 GACAGGACA GCTTCAAGGT ACTGCGGGG GGGCGGTCA GGTCCCGCA GCTACAGGAC 600  
 GCGTCCCCC GCACTTTTTA TTATATNGC NGGNGCTTT CCNGCAACN GCTAAACTG 660  
 CTGTTTTCNC ATATAAGNC CCGCGGTNC CGACTNCAA GNAATNCNC AACNTTCTT 720  
 TMTTCCGAG GCNGGGGAAT TTCCCGGA TMINNGGCC CCCCCGTNN TGGGTTACC 780  
 CANTCCCCCT GCCCAATCCT CCCCAGGAAN CCGCNCNCAA CCGTCTCGAN TTCTCCACC 840  
 CGNCTGACC T 851

## (2) INFORMATION FOR SEQ ID NO:521:

30  
 35

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 823 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35  
 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1366RP

40  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:521:

45  
 50  
 55

GATCCAACGG TCAACCAATG CCTCCGAGAT TGGCGGCATA GCGATGAGA TTGCCAAAGC 60  
 GGAGAAGCAG GACAGCTCCG CGGCGGTGTC TGCCATGGGT GCGTCTTAG GCGATGCAAC 120  
 GAGTCTTTC GGTGCTTTGA ACGTCTTAA CAGTCTGOC GAGCTCTGA ACCAGCCGG 180  
 AGCAAAGCCT GCTGCGGTG CTCTCAAGG CATGATGGAG GCTGGGTCTA ACACGACTAA 240  
 GGCAATTGAC TTCAATCATG AGGTGCAAG TCATCCAAAG GCTGGCGCGG CAGAGCAGT 300  
 GATGGGTCTA GATATGGTAC TCCAGAATGC CGTGAAGTCA AGCGAAACCT TTGCAATAT 360  
 CATAAAATG CAGATGGCAT CGACCGAGGA GTCGAGAGG GCCTCCCAA GTTGTGTGG 420  
 CTTGTGTGTC TACTCGACTG ACAAGATCGA GAGCATGAAA TCGTGATTA AGCTGATAGA 480  
 GTTCGGTGAA AAGAGCCCTG ATGTATTGAA TCCTGTCTTA GAAGTGCTGC AAGCTTCGT 540

GAAGGTCAAC AGATTGATAC CCTCCGAAAG AATTTINGAC TTACACCCAC ATCCTGGAAA 600  
 CTTCATNTTT GCTGCGAGTT ACAAACGGC ATTTCCCAAT CTCCCATTTG TTCCCTTAAC 660  
 5 GGNCCCCAAA GGTTCGACA CCGNNTCTT NCAGGNTTCA ATNCTACTC CTNNNNCCNA 720  
 CCNANGAATC CNNTTGGGCC TTNTTTAANN CAAATGNGC CANATNTACC CCCAGGTTTT 780  
 10 TTTTGGAAAN CCTTTTANA CCTTCCCCC CTTCCCTTIN NAT 823

## (2) INFORMATION FOR SEQ ID NO:522:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 854 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1366UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:522:

GACTTTATCA GGATAAATGA TTGCTCCCG GAAAGTCGAT AAATTGCTCA TATATGCOCT 60  
 CTGGGGGAGA TAATATATCG GACTTTGGCC ATTTTCAGCA TTCTACGGG GCATGATTAG 120  
 CTTCGTAGGC TTCTTAGGT TAGTAAACA TTGAAAACA GGCCACAAC CCCCAAGGAC 180  
 30 COTGAAAAGA GAAGACTTGC CCAGCCATT AGGACCTATA ATCAATAGAT GGTACCATG 240  
 CTTCAACTCG AAGTTAAGTT CCGGGATAAG GACCTGATTA GCAGGTGTC CTAGTGGAAC 300  
 ATGAACGAAT TGAATCTTAG AATGCTGTA TTCTATAATG ACCTTTTTC CATCAGTCTT 360  
 35 CGAATACTT CCAGCGTCTA GCTGTGCTT GAAATTTGTT AACCGTAGGG CTTCTCCCTT 420  
 TAGCTGCTGG ATACTACGGC GCAGTTCGAC ATAGCGGCCA ATAGATGGG ACCCAGTTAG 480  
 CAGTAAACGT CTGTTGGTGA TAAATCAGC GGTGACATCC TCAGCCATAT TAGAACGAAA 540  
 40 GAAGACGGG ATAGACATA ATATCAAGCC CAGCAGGCC CCAGAGTAC TTCACCACAA 600  
 AGCTAGTACA ATTGTACAG TGCTCTTAAA TTATCTGCC CCGGCTNAGA ATAAGTTACT 660  
 GGTANAAAN AAAAACCCAA TCCATATTC GGTNTTTCG CNIGAATAAA CMTNCCNEN 720  
 45 TTGCTTGACC NCACITGAAT TTATGACGA ATTACNCCA TTTTCCCTG ACATACCGTT 780  
 CAATTGGNG TTTGACCTCC CACTNATTAT GATTNAAAT AACCCATCCN GTCTTNGC 840  
 50 TTTCCCTGGN GATC 854

## (2) INFORMATION FOR SEQ ID NO:523:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 824 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1367RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:523:

5	GGATCGCC	CCGTGCCC	CGTGTGCCC	CGTGCCGCC	GCCAGGGCT	GCGCGCGCG	60
10	CAGGCCAAC	GCGCTCCGC	CGTGTGCCC	TAGCGGATTG	TTCAATCCCT	GTTGTGCTC	120
	CTGACTGTCC	ACTGACCTC	TTGTATCGC	ACCTTTCTGC	CAAGTGGGC	CCAAACTCTG	180
15	TTTCTCTGTC	TGTCCAGAT	TTCGCTCTCT	GGCTGCGCTA	CTGCTACCT	GCGTTTGGT	240
	ATGGAGGAGA	AGTGTGTGTG	TATCTGATTT	GTTTATCTGC	TTTCTTCTC	CTATAAGCTT	300
	TTTGTAAATG	AAAAAATTAT	GAAAAAGGA	AATCTGTGGA	ATTGTGAAAT	GCTGCTGGG	360
20	CTCGTTGTTT	CAACTTCCAG	CGCGCGCGTC	TGTTCTACT	GCTCTGTTCT	TGGTCTAGCT	420
	TTCGGTATTT	TTTCTGCTCG	GTTTGGCTTC	TTTTTCTGTC	AACGCAAGGG	CGCGCTGGT	480
	GCTGAGGTG	CCAGGTGGCT	GCACAAGTGC	GGCGCGCGCG	GAACGAGCC	GCGTAGTTAC	540
25	CGGCAACTC	TGCGCGCGAT	CCCTGCGGA	GGCTTAAGGC	AGCGTTAATT	TAATTGTTC	600
	GTAAGTCAG	TGGAGCTAGC	ACGTGCTTGG	CAGCTCAGCC	GCACGTCAG	TAGGTGTGA	660
	CTAATCGCG	CGACCTGGTG	GGTTAAANGA	CGGTTACNC	CGTTAAGTTG	GAAAGCNC	720
30	AATAAATTAC	NTACCCNTTA	AACACACGG	ANAAAAANAN	NCCCCGNC	NAAGNANTTT	780
	TTGCCCTTGA	AGCCCGGTGC	CCCAAGCGCG	GNCNCCCCA	GAAN		824

(2) INFORMATION FOR SEQ ID NO:524:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 850 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1367UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:524:

45	GATCTTATGG	GTGGTTCTCT	AGGCTGAAA	GGCGGATATG	GACAGTCGAA	ATGGGCAGCA	60
	GAATTATTAT	TAAAGCTGC	AGGTGAGCGT	GGTTACCGG	GTTGTATATT	GAGGCCAGGC	120
50	TATGTGACTG	GTTCCCTTTC	TACAGGAGCT	TCTAACCGGG	ATGACTTTCT	GCTCCGGTTC	180
	CTACCGGGAT	GTGTTCAATT	AGGCAAAATT	CCTGATATTG	AAGGAAGTGT	TAATATGGTA	240
	CCAGTTGATT	ATGTGGCAGC	GTTAGCAACA	GCGCTTCTCT	TCTGTCTATC	AGGCATAC	300
55	CATATGATGG	TTGTAAATGT	CAATCGGAAA	CCAAGATAT	CATTCAGGGA	CTATCTACTA	360

GCCTGAAGG AATACGGGA CCAGTAACA TCAGTTCTT ATGACGAGTG GAGTAAGGCG 420  
 CTGTAATCGT CGAGTGATGA AGAAAATCCT TTGTATCCG TATTGTACCT TGTCCTAGAT 480  
 5 GACTTGCCTA AAAACTGCC AGTCTGAAC TCGATACTAC TAATGCGAAA TTGTTTTAG 540  
 AAGAAGATTT TCGCGGAGC AATATTGAGC CAATTATCAT TACTTCGGTG TCATTAGAGT 600  
 TGTTGGTCCC CATATCTCAT TTTTGCATAA TTTAGCTCCC NANAANAACC ACCTAAAGTT 660  
 10 CCCAGCCCCC GGCNATATTC NCTCTCCCGA CGAACAAATT CCTTAATANC NCATACCNCT 720  
 GGNCCGAACA TACANCAACC CNTAAATACC NCAAAATGTN GACAACATGA NIGTTTTATT 780  
 TTTTTATATT ACAACCTATT AITTAACAAA TTNVATAC GATCNCTINT GACGCCCCCT 840  
 15 CTGACAAATT 850

## (2) INFORMATION FOR SEQ ID NO:525:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 825 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1368RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:525:

GATCATCTGA AGTAATATAG AATCTGCATG GCGCAAAACC GTTGGGTCC AATGTAGCG 60  
 CGGTGTAGCG GCCATUGGTA AAGGTGAGCA ACGCAGGGCC ATCCCATGGT TCCATCAAAC 120  
 35 AGCGCGCCCA GTCAAACCA GCTTCAGGT TAGAATCCAT GTCCCTGTGG TAGGCTTCTG 180  
 GAACCATCAA GCACATGGCT TGGGTAAATG ACAGAACACC ATTATCACT AGTAATTCTA 240  
 GCACATTGTC CAGCGCGCA GAGTCGGATC CGCCTCTTC GATAATCGGA TAAAGCTTCT 300  
 40 CCAGTTGGTC TTGGAAAACG GCGGATGCC TGACACCTTC CTTCGCAGC ATCCAGTTTT 360  
 TGTGCTCTT TAGGGTATTA ATTTCACCGT TGTGTCAAG CCAGCGCAGA GGCTGGGCAC 420  
 GGTOCCAAGA TGGGAATGTA TTGGTTGAG AAAGAGAGT GTACCAGGC CAGGTGAGAC 480  
 45 TTGAAATGAG CATTTGTCAA GTGTGTGTA TAATTATACA CCTGGCAGG TCAATTGACC 540  
 TTTGTACACA ATTGTCCGT TATTTAGGAG CACACAGTA ACAGTTCTGA TACCGATGCC 600  
 CGTTAAACC NCTTTCTTT AAATNTAAA CTGGCATCCN GAAGTCTCTC GTNATTANCC 660  
 50 TGAATCINEN CCCGATACTC CTGCCATAT TCTTTTNCN CAACAACGTT TTTGAAATGG 720  
 TTTCCCAAAA CCAAGGAACC NAAAGAAATN CTNTGGACNC CTCAACCCN AACCCNATT 780  
 TAACAATCGG TACTNGCCAA TTINTCAAG CNNAACCTGT NNNCT 825

## (2) INFORMATION FOR SEQ ID NO:526:



- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 839 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1368UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:526:

15	GATCGTGACG ACTTTGTGTT TTA CTTC AAC CGTATTGCAA CGATCTTGGT TTGGGGGGCT	60
	TTGGATGACA TTGCTATCGT GGGGATGAA CTGCCATTGG TGACTGCATC CGGATATCAA	120
	CTGGAGAAGC CTGTCATGT GAATTTTGAC AAGATTACCG CTGTGAATAT TGTGGGCTCT	180
20	GGGACTGTT TCATGGCTTC CCTACGCAA ACAGTGCCAA ATATATCCAT CGGTAAATTG	240
	CTCAATCAGT CTGACTCTCA AACAGGTGAG CCGCAGTTAC ATTGGGAGTT CTTACCAGTG	300
	AACATTGGCG GCTCTTTTGA CCAGTCTTA TTGATGGATG CACAAATAAT CTCAGGGCCA	360
25	GCAATTATCA TGGCTATTCA AGTGTAGTT GACCATGGTG TTGAACTATC AAAAATAAAG	420
	GTTATTGTCT ACTTAGCCAC TGAAATGGA ATAAGAAGGA TAATAAATGC CTTTAAACAC	480
	AAAGTATCAT ATATGGGGC GAAATTATAT CAGACGAAAG TATGACAGAT GGCAATGTA	540
30	CTGGGCGAGG GTGAGATTCA TCGACTCAAG ATACTTTGGC TGTGACTGAT TCAGAGCTTT	600
	TGCTGCCCCA GCAGGAATTA ANAACTTTTG GTGCTATTGC ATGTTACAAT ATTAGCATTT	660
	ATCATCCATA CCATAGCTGC TTTACNATAG CATNTAATTT TACTATCTTT NAACCCACCC	720
35	AGACTATTTT TCCCCCNTA CTTTACNAAN ANTTTAANCA ACTGACCCCC CGNTATAATT	780
	GGCCATCCAA CACCCCCCNC CTCNTAANAA ANACCNACTT GGAACGAGTG GGAACCNCC	839

(2) INFORMATION FOR SEQ ID NO:527:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 851 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1369RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:527:

	GATCGCCCTAC TTGTCTCAGG AACTTGTAT CATGAGAGAT GATATGTGCA ACAGGTTTAA	60
55	GGCAATAGC ATTATTTTCC CAACAGTGA AGAGGAACAG AACAGGAAT ACATGCTGTT	120

ACAGCAGGAG CTCAGGATG ATGAACGTAG TTCGGATCTC TCATTAGTC AACTGATTAA 180  
 GTCCAGGGAC CAATTGCTTG CCAGTGTCCA GGAGTCCAGG AAGATAGTCA AAACCATCTT 240  
 5 CGATCAGCAA CACCTTTCCG CCTTTACCTC GCAGGTGGCG CCTATAAGT GGGACTATGA 300  
 CTACACGTTG CACCTGTCCC CAATACCTTC CACTATGATC ATTTGGGACC CAACTGCACC 360  
 GAAATATGAT GTTACTTACA ACGGCTGCAA GAGTATCAAT CCAGGCTCAT TTCTCCACAA 420  
 10 GCGGAGGTC AACTATACTG AGTACACTCC TTGGTTACGG AAAGCAACAG AGGAAGAAAT 480  
 TGTGGTGTAG GACTTTAAAC TTACATATAA TGTCAAAATAT AAAGGTTTCA GAGGTGTCA 540  
 TGTTTGGTAT GGATATTTCT TGAACTTTTC CCGTAATATC GTATGGCATA CAGTAGAGGG 600  
 15 GGTCAATNGG AACACCCGNC CGTGCTTCTT CAAACTGGNC CCCANINCAAT CCCAAAAAAT 660  
 TMTGAAAAC TTCCACCTAG ATTTTCTGGC CATCGGNGAT GGCNCCNCT CTTTGATTCC 720  
 TNCANCCCCA GANNAATCNC CCGCTTTCTT GNTCATCCAT NCCNTTNGC CCAATTCNA 780  
 20 NCGTTAAANG CCCCCCCCNC TTTTCAACTT TNGGATTTIN NINGTTTCOG TGGGNNNCC 840  
 CCGTNCAGAC C 851

## (2) INFORMATION FOR SEQ ID NO:528:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 858 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1369UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:528:

GATCAAGACG AAGCAGAAGA AGACGGGGTA CGCATGTAG TGCCACCTGG TGGGCTGGGA 60  
 40 GGGGGCCAGG GCGATCGCTC TGGAGGGCGA CACGGGCTG GGGCTGGTAA TATGGGTGA 120  
 CCGGACGGTG GACACACGGG CGCCGCACAT ACAGAGCATT CTGCGGCAGC AGCAGAGGAA 180  
 GTACGGGGGC ACGGTGCCAA CCATCCGTGT GGGGTGATT AATTGGATCG AACATTGCGA 240  
 45 GTTGTTTTTC GGCAAAACGC TCGACCGGAA CACACGGGAC TACCTGGTAA ACGTGAGGOC 300  
 TGCAATGGTG GTGTGGGCG ATGTGGTGGG GACCTGCGG CCGGACCTGA GGCAATATA 360  
 TTGCAAAAC CTGAGGTACC TGATAGACTG GTTGATACC CTTGAGAGGC CATGGCGTT 420  
 50 GCGGACTTC TATCGGTGA AGTATACAC TGCAATGGAC GTGGAGCGCT CGTGCTGAC 480  
 CGAGGTGAAA TACTCCCCAG AATAATGACT CCGTGGAGG ATCGGTTTTA CCAACGGCAA 540  
 GAAACTTACC ATAGTTCCNT GGACAAAGGA ACGGTGGAAA TCGGCGGATC TCCTACTAC 600  
 55 CCAATAAGC GTTTTGAAA ATGACTACAT TNGAATCCN CCAACAAA TTGAACACTC 660

CCCCGAANNA NCATACNAAN CCAAAGTTT GCTAAATATC TCTTTCNTN GTACACTGAC 720  
 CCNACTINTT GCAGGGAAAG GNCCTGTTTTT AAACITCCAC TENGACTTNA TTTTACCCCT 780  
 5 CCCCNCATCC ACCNAANCAA CACCTINTCN AACCATAGAA CNNTTTTCCT TTTAAAACAC 840  
 TNAGAAGCAT TTNAAAAT 858

## (2) INFORMATION FOR SEQ ID NO:529:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 834 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1370RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:529:

GATCTGTAC AACTGAGCCT AGGTCTGTGT GTTGAACGGT AACCTCCACA TTCATTATTT 60  
 25 GCTCCAATAT GGAGAACGCC GAAGTTGGTA AACTGGTCAG TGCTGATATG ATTAAAGGAC 120  
 GCACAGTCAG CAGAATGGAT GCAGCTGCTG CGCAGTCTAG CGGTAGCCGC CAGCGTTTAA 180  
 CATGAATCAC ACACGAGTGT AGAGGAAAGC CTGCGGTTTT ACCAOCCTCTT TGCAAGGCA 240  
 30 CTATGCAACA CGAGATGATA GAGTTCAGA ATGCGTCATA TTTCAATGGA AATGCGCAAT 300  
 TGTCCTCGTT AAAGCGTGGG TTGGATCTA TGACAAGATA GTTATATATG CTTCCCAAGG 360  
 GGTACCATCC GTTACTGAAT AGTACTTTAT CTCTCTCAIT GTATTGCGA ACTTCGAGTT 420  
 35 CGAAGCAATA TCATCATCT GTTTCAGAGT GCTTCCTCTC TGTAGCAGTA TTAATGGTTT 480  
 CCTGTATGA AACTGCTACC TTGCTACTC TTACAGGCGC CTTAAATCA TTGAGCAGCC 540  
 GTGGCTGCT ATTTCAGTG CATTCCGCGC ATCCCATCA TCACTGCTG ACCAGTCTCC 600  
 TCATGCGTCA CNAATACCAC NACGGTTCOC CACTGGTTAG CTGCNCCAG ATCACCONAT 660  
 40 ANCTTTTNT TCCCAANIT CCGCGTCCN NCANCGNCT AAAANGGTGG NGGTANTCAT 720  
 GGGTNTTCC CANTIGNANT TNGCTTTTG AAAACAATC CCCTTTAAGN TTNAAAGNNA 780  
 45 AANGGTTC CTTCTAAMTG TGTCCCTTG GCGCCNCCN CCAATNCCG AGAT 834

## (2) INFORMATION FOR SEQ ID NO:530:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 840 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1370UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:530:

5 GATCGCAGAG GAGGAGCCCA TTGCGAGGCT TGCATGGAAG GAGGACACCT TTGAGAATTT 60  
 TGTGGGGGAG GTGACATCCG ATGAGGGGGG CGAGACGCTG GTTTCGGAGG AGGATGCGGC 120  
 CACCTACCTG GCCAAGCTTT TATGACGGCT GTCCGTGCTT TTAAATTGTT ACATACTGTA 180  
 CATATTGCTT TTAGTGTGAC CACATTTTGA TCAGCTCTTC GGAAACCGCG CTGGGGGTCA 240  
 10 GCACGCCAG GTCTGTGATC AGCGGGTAA TGTGCTCGTG CGAGGTGTAG TCGATGGACG 300  
 GGCTTAGCAG CTGCTCTGAC TGTGCTGCTG GCGAGAAGTC CAGCGGTCA CGCTOCATGG 360  
 GCAAGTGTG GGGGAAAGC GCGAACATCC TTACAACTT GTGGGATTG CTTACCAGT 420  
 15 AGAATGGCTT CGGTGGTTC TTGGGAGGA CCCCTACGT GTACGTCCCC ACGAGATTTA 480  
 TGATGCGGC GGACTCGGC ACCGCTCGG CGCAACCAG CACTTGTGCA TTTTGTGTAT 540  
 GATGAGCCCA CCGGCTGTG CAGATCATC GTCACCGAT GCGTTTGT TGCAGCAGT 600  
 20 CATAAGCTG CTTGCCCTGC CCGAAGGCG CGTCTCGT CAGANACAC CGGAAGCAAT 660  
 CACTCTACC TGTACTCAC ACGAAANCG CCGCAAACC AGTTCCCAA AAGTCTCTC 720  
 TGTTAGATCC NCCATCTTT GTCTTTTTN TNGAGCTTG CCGAANCAA AAGTCTCTC 780  
 25 CCGNGTTGC TGCTGACCC CCGTCCANA TTTTCTTC CCGCCNCC NATTTCT 840

## (2) INFORMATION FOR SEQ ID NO:531:

- 30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 835 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear  
 35 (ii) MOLECULE TYPE: DNA (genomic)  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1371RP

40

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:531:

GATGAGAAC AACTAGACA ACAGCCAGC AGACGGGGG GAAGGGCTCA AGCCGAGTA 60  
 45 TATTTTGTAG TACCTTGCTT CGCTCATGTA CCAGCGGCC TCAAAGCTGA ACCGCTCTG 120  
 GAACGCCATC ATGTTGGCG GGTGAGGA CGGCCAGGC TTCTGCGTT ATGTGGACT 180  
 CAAGGGGTC AAGTACTCG CCCAAGCTT GCTACTGC TTTGGGCCC ATATGGCCAT 240  
 50 TCTTCTCATG CGTAAAGTG CAGATGCCA AAAAGAGTC GCGGGGTG ACCTCTCAAT 300  
 TCGCGAGCG ACTATCTG AGTCCATGAA GGTGTTATC TACCGGATG CGGTAGTTC 360  
 CCGTGGTTC TGCTTGCCA TCATCGACA TGATGCCGT GTCAGCATG AGCAACTGA 420

55

AGTGGAAAC ATGAOCTGGG GGTTCGCCAA GGATATTGGG GGTATGGCA CCCAGAATGT 480  
 CTGAGTACCG GGGGCAAGC GCGGCACCTG TATACTATCT TGTGGGGCT GCTGGCCAAC 540  
 5 CGCTGGCTAC TCACATACAT ATCAAGATGC ATAATCAATC TGTTCATGAA CGCACCTCTG 600  
 TTTTGTGGAT ACTCTTCTCG CCGGTATCCT GAGTACGCTG GAGTGCAAAA AGAGCCACTT 660  
 TGAAACAACA CGAGTCCAG CTAAGGNGAN ATCCGANIAA NCAACNACA CTTCAATTGA 720  
 10 CTTATGAAAT GCGCAAGTT GATTGAACTG ACGTCTTGG AACNNITGGN CGTGGAAACG 780  
 CCTCTTCAN TTGAACCAA GTCCACAANN AGGTATTINT TINAACCGTT CCGCC 835

## (2) INFORMATION FOR SEQ ID NO:532:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 850 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1371UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:532:

GATCCATGT GGGTTTGAG GTCAAGCCAC GGAAGTGGAC ATGTAAGTGA TGAGCTTGA 60  
 30 CGGGCAGCTC TTCAATTCGT CCGCACGCAA GAAGCTTGAG TTCCCGAGGT CTCGGCGGA  
 GAGTGGGCG TACCTTGCT ATTACAGCGG ATACAAATTC GAGGCGATGG CGCTCTGGA 180  
 CCGTCCGGTG GCGGAACTC CCGCGAGGT TCTGGAGAGC CCGGCAAC AGGTCTGTCG 240  
 35 CAACGGTCCG CAATACAGGA CTGTGATGAG AACCGGGTC GGGGAGCACA AGCTGGTGCT 300  
 CGGAGCTGAG ATGACCGCA TCATTGACTT CCGCGAGCT ACCGGGAGCA AACTGAAGCA 360  
 CTACGTGAG CTGAAGGTGT GTCAAGAA CCGGAAGCTC TCAGAGAAAC TTTCCTCTC 420  
 40 TTGGCTGCAA TGCTTTCTGG TGGGCATAAA CAGGGTAAIT ATTGGATTCC GGGATGAGAA 480  
 ATTGCTCTG AAGAGCGTC AGGAGTTCN TACGTGAGG ATCCACACC TGTAAAGGG 540  
 CACGGAATAT TCAATGTAT GTGTGAGCC AATAGAGTG TATGGTGCTC TTACGAAGTG 600  
 45 GCTATGTGAG CTCGGCGGG CCTGAANACA CTTCAACTGT ACAGCTCTCC NGCTCCCTG 660  
 GTGCTTACGT NTGNCCTCT GGCNACAAT ACTCCCNAN NGGGACNATT NTCTGTTCG 720  
 TTCCCAAIT GCGCGGGCC CNATATAANN CANATTCNN CNPNTTTC CTTNIGNITT 780  
 50 TAAAAACCN TMTTCCAC CNATTNCC AGANNACANA GNNNTCCC ACCANNCTIN 840  
 CCCANCCNA 850

## (2) INFORMATION FOR SEQ ID NO:533:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 835 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1372RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:533:

	GATCTTAAAA TAAGATAGAA TGSTAATAAA TATCATTCAG GTACAATAGA TGCTGTGTT	60
15	ACTAAAGGAT TACCTGGAAT ATAATTATCA GGATGTCTA AAGTATTAGG TGAAAAGAAT	120
	ACAAATAATG AAAAGAAAAT TATAAATACA AATACTGTTA CTAAATCTTT AAAAATAAAA	180
	TAACCATGCA TTGGTAATCT ATCTAAATTA OCTGTAATAC CTAATGGATT TGATGAACCA	240
20	TGTACATGTA ATAGCATTAA ATGCATAATT ACTATGCTG CAATAATAAA TGGTACTAAA	300
	TAATGAAATA GAAAGAATCT TATAATAGTA GGATTACTAA CACTAAATGA TCTCATAAT	360
	CATAGTACAA TATCATTTCC AATAAATGGA ATAGCACTAA ATAAATTAGT AATAACAGTA	420
25	GCACTCAAT GTGACATTTG TCCATATACT AAACAATAAC CTAAGAAAGC TGCTGCTATA	480
	GTTAAATAAA AGATAATAAC ACCAATGTT CATACAATTA CTCTAGGTGA TTTATAAGAA	540
	CCATAATATA AACCTTTACC AATATGAATA TACATACAAA TAAAGAAGAA TGAAGCACCA	600
30	TTAAGATGCA TATATCTAAT TAATCAACCT AGTTGTAATC TCTCATAATA TGTTCTACTG	660
	ATGANAAAGC TAATCCATAT TANATGAATA AGCATINCTA AAAAATACCN GTNAGAATTG	720
	AATACTAACN TAACCTATAA AACCAATTC NTCATATAA TGAGAAGGTG AGGAATCAT	780
35	ACNACTATAA CNATTTAATA TATTGATTCT ATTNCCATTT TTNFINAAT TTTTC	835

(2) INFORMATION FOR SEQ ID NO:534:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 854 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1372UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:534:

50	GATCTAGAAT TATTAAAGTCA ACTATTAACT AATATCTATA ATAATAATGG TTTATCATTA	60
	AAATCATTAAGATAATTAT TAATAAATTA CCATTTAATA ATGATATATT ATTATCAAAA	120
	AATTATGTTA ATAAAATAAA TAAATATAAT TTACTAATTA ATAATAATTT AAATAATAAT	180
55	AAAAAAGATT TAATTAATTT ATATACTTTA GATAATAAAT TATTAGATTT AAGTATCTTT	240

AATAATATAT TATTAGGTAA ATATTTAGTA GGTAGTAATA TCCAATTAAA GGGTAGACTA 300  
 TTAAATAGAA ATATTACTAG ACTAATAAAA ATAAATATTA TGAAAGGTAC ATTTAATAAT 360  
 5 TATATATATC AATGAAGTAA ATTAAATAAT TTATATAAAT TAAATATAT ATCACTTAAT 420  
 ATTAATAAAC TTAATAATCT ATTTATTAAT AAAAATGGTA TATTTAATAT TAAAATTAAA 480  
 TTAAATACTA TTTAATAAAT ATTTCTAAAGT AATTTCTTAT TTATTTTATA ACATTTTAAA 540  
 10 ATGTTTTATG TTAAATAGAT AATAATCAAT TAAATAATAA AAATTAAGAT GCCACAAATA 600  
 ATTCCATTTT CTTTATGAAT CAATTAACCT ATGGTTTCTA TTTATTTTAC NATTTATCNC 660  
 ACTACTNATG TTTTTTTACC NNTGAATTIN ANAATATATA CTNCNANTA NATATTCNCA 720  
 15 AATTATAATA TTAATTAAAT TTAATTAATC TATTATGATC CINTTINTAA ANATATCAGA 780  
 ANAATTTAAT ATATATATNG AAATATNITT ATCCCCCNGG NCACTTGAAN AAAANTATAG 840  
 TTTCTCCCC ACAT 854  
 20

## (2) INFORMATION FOR SEQ ID NO:535:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 827 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1373RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:535:

35 GATCTTAATT TAAAATTTTA ATTAACATTT TATAATTTAG AAATATATAA TCTAGAGATA 60  
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120  
 AATAGAAAAC CATAAGTTAA TIGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180  
 40 ATTTTTATTA TTTAATGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240  
 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300  
 AAATATACCA TTTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GIGATATATA 360  
 45 ATTTAATTIA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420  
 TTTCAATAA TTTATTTTIA TTAGTCTAGT AATATTTCTAT TTAATAGTCT ACCCTTTAAT 480  
 TCGATATTAC TACCTACTAA ATATTTACCT AATAATATAT TATTAAGAAT ACTTAAATCT 540  
 50 AATAAATTAT TATCTAAAGT ATATAAATTA ATTAATCTTT TTAATTATAA TTTAAATCAT 600  
 TATAATAAGT AAATATATTA TTATTTTATT AACATAATTT TTGATAATAA TATACCATTA 660  
 TTAATGNNN TTATAANAAT TATCTTNAAG GATTTNNTCC AAANCCNTNN TTTTAGAAT 720  
 55 TNGGTAAANG TGNCTAAAN NCCAATCCCN AATTATTTAAA TTAATTTAAN AANAANNANC 780

CTTTTNTINA ATTAGTTIN AATTAAACCC NCTCCCTNT TTAANAT

827

(2) INFORMATION FOR SEQ ID NO:536:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 831 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1374RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:536:

GATCAATGAT AAATCGAAAT AAATGATAC TATTGTAGCC ATTTTCTGA ATTAGCACT	60
GGAAACACTT TTTAACTGT TCCGGAGTGG TCTCTGACTG ATTGGAGTTG AGCGTCTGC	120
GCGTAACTGC CTCGTCTGTC GTCTTAGCTC CGACGTTTC CACTGCCCGC CGCTGGGTGC	180
CCACACGGGT CTCTTCTGA ACTGGAGTG GGGCAACAT GTGGTCACT AGCGTTGGTG	240
CGCGGCAAG TTGCTGGAAT AACGCAACCA TCTTAAACCA GTTGAAGTGT GCAAAATCTC	300
CATACGCTTC GAATTGCGTG AGATAGGAGT TCGCTGCAT GCTCTGGCGA AGAGCAACAT	360
CGCATGCTG ATTGGTGCTC TCATCTAGAG CGTCTGCTGT AGCATCTCCA TCATTTTGA	420
TGCTGTGCTT CTGGGTAATG CTAGCATCGT CTGTTTCGG ATACATAGAG CCAGGTACAC	480
TCAGTGATT CAACTCAAGG TAGTCTTCCA GCAGAAACG CTTCGCCCCG TTGACAACT	540
OCTCAGGGCT CAAAAGCTTC CCCGATTTC TCAGTTTTCG ATTGGGTATA CTCAAGCTTG	600
CAAGTCCTG ACGCTCATCA CGGCATGCGA ATCTTGGGCA AAAGAGAATT GACCTCAGTT	660
CAATCGCCCG CCTTGCTTTA AAAACATAIT AACTCTCCN CGGNCNCAG GANAGAATNC	720
TCCCGTACTT CNANGNAGNC ANCTNIGCC NTCATCTCAA ATTGCGNACC TNGTNANTG	780
GANCNITCC CGAGCCCCTC TGCCCCCTA TTGANGNCG NCCCCGTTG A	831

(2) INFORMATION FOR SEQ ID NO:537:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1374UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:537:



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 10  
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GATCTTAAAG GGGGATATAA AAGCTGTACA AAAGAAGATG AACAACTTC CAACGCTTCT 60  
 AAACCTTGAT ACTTCGGCCA TTGCTTGA AGATGAAGGC GAAACAAAAG AAAGTACCGA 120  
 ATTTAGGGCT ATTATTAAAG AGTTTGAAAC ACAAAATAGT TTCCAGAAGA TTTTATATGG 180  
 GAATTAATAG ATAAGACTAG CATCTTTGA AAACCTTATA TAAACCAGGC AGATTAGCTA 240  
 CCTCTACAAT GTCTTCAGA AGTCTCGTGG ACGCTAGGAG TGGCTCTTT ATCGTTGGGA 300  
 AAACCACTTG TTCCAGAACT GTCCCAATAT GCTCTGCTT GGAAATATAA TAAGCGCGAA 360  
 CATCGGCATC GATTGTGTGG TGTTTTATAT CTAGGTGCTC AATAATCTCA GGAATATAGA 420  
 ACAAGGCAAG TTGTGAAGG ATTCTTCTA GGCACCTCTT TTCCGAGGAC CAATCTACCT 480  
 TAGTTCCCAT TCTGTAGAGG AAAAATGGAA GTTTAGAAAG AGGCGGACA TAACTCTTTA 540  
 AAAGTAAGG TACACTCTTA ATCGCAAGT TGTCAAATC GGCTCTGCTT CCACATATTT 600  
 CAATOGAGTA ATAGTTCTCT AGCAATCTCT CATGTCCACA CTGTGAGTT ATTCCAAATA 660  
 TCGAATGCGA CGCAITATOC ATCTTAGATA NGTTGGTAT ATCGCTAACT TCCGCAATCT 720  
 CAACNCANC CTNGATATNA TTCCCGAAN TTGNNAATN NNNATCCCAT TGANAAAATT 780  
 CCTTCTTAG GACCTATCAC CCAAATANTT AACCGGNTT NANGATCCCT GNTTGGTCAC 840  
 AACCNNGGT CTNNNN 856

## (2) INFORMATION FOR SEQ ID NO:538:

30  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 828 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35  
 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1375RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:538:

40  
 45  
 50  
 55

GATCTTAATT TAAATTTTA ATTAACATTT TATAATTTAG AAATATATAA TCTAGAGATA 60  
 TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAAATA 120  
 AATAGAAAAC CATAGTTTAA TTGATTCATA AAGAAAAATG GAATTAATTTG TGGCATCTTA 180  
 ATTTTATTTA TTTAATGAT TATATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240  
 ATAAATAAGA AATTAATTTT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300  
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360  
 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420  
 TTTTATAATA TTTATTTTAA TTAGTCTAGT AATATTCTTA TTTAATAGTC TACCCTTTAA 480  
 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540

TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAATT 600  
 ATTATTAATT AGTAAATTAT AATTATTTAT TTTATAACAT AATTTTTTGA TAATAATATA 660  
 5 TCATTATIAA ATGGTAAATT AATTAATAATT ATCTTTATGA TTTATGACAA CCATATATTA 720  
 TAGANATIGT TAATAGTTGA CTAATATOCN ATCCAACCTN TATTNATTTA NAGATCATAN 780  
 10 ACCTTTTATA CAATTATTTT NATATAACAT NTACCTNATT ANAATATN 828

## (2) INFORMATION FOR SEQ ID NO:539:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1376RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:539:

25 GATCTATTTT GCGGACTTCC CTTATCTACA TTATTCATC AACTAGAGGC TGTTCACCTT 60  
 GGAGACCTGC TCGGGTTATC AGTAAGACCT GGCATGAAA CTATTCCTTC CTGTGGATTT 120  
 TCAAGGGGCG TGTAAAGGC ACCGGACCCA GCATAGATGC TGGGCTCTTC CAGCCATAAG 180  
 30 ACCCCATCTC CGGATAAACC AATTCCGGGG TGATAAGCTG TTAAGAAGAA AAGATAACTC 240  
 CTCCCAGGGC TCAGGCCGAC GTCTCCACAC TCAGTTACGT TCGGTGAAG AATCCATATC 300  
 CAGGTTCGGG AATATTAACC GGATTCCTTT TCGATGGTGG CCTGGAAAAT CAGGCCTTTG 360  
 35 AAACGGAGCT TCCCATCTC TTAGGATCGA CTAACCCAGG TCCAAGTCT GTTGACGTGG 420  
 AACCTTTCCC CACTTCAGTC TTCAAAGTTC TCATTTGAAT ATTTGCTACT ACCACCAAGA 480  
 TCTGCACTAG AGGCGGTTGG ACCCAGCTTT ACAGCCTAGG CTTCGTCACT GACTCCAGGC 540  
 40 CTGCCTACTC GTCAGGGGCT CATATTCTGC CCTGACGGTG GAGTATAGGT AACACGCTTG 600  
 AGCGGCATCC ATTTTCAGGG CTAGTCAATT CGGCGGGTGA GTTGTTACAC ACTCCTTAAC 660  
 45 GGATTCGGAC TTCCATGGCA CGGTCCCG 688

## (2) INFORMATION FOR SEQ ID NO:540:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 757 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1376UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:540:

5 GATCCAAGGA ACCTTTCCTT CTGGCTAACC TAGGGTACTT GTACTCTAGG CGAACCANGA 60  
 CTTTACTTTT GAAAAAATTA GAGTGTTCAA AGCAGGCGCA AGCTOGAATA TATTAGCATG 120  
 GAATAATGGA ATAGGACGTT TGGTCTTATT TTGTTGGTTT CTAGGACCAT CGTAATGATT 180  
 AATAGGGACG GTGGGGGGCA TCAGTAITCA ATTGTGAGAG GTGAAATTCT TGGATTTATT 240  
 10 GAAGACTAAC TACTGCGAAA GCATTTGCA AGGACGTTTT CATTAATCAA GAACGAAAGT 300  
 TAGGGGATCG AAGATGATCA GATACCGTGG TAGTCTTAAC CATAAACTAT GCGACTAGG 360  
 GATCGGGTGG TGTTTTCTTA TGACCCACTC GGCACCTTAC GAGAAATCAA AGTCTTTGGG 420  
 15 TTCTGGGGGG AGTATGGTGG CAAGGCTGAA ACTTAAAGGA ATTGACGGAA GGGCAACCAC 480  
 AGGAGTGGAG OCTGCGGCTT AATTGACTC AACACGGGGA AACTCACCAG GTCCAGACAC 540  
 AATAAGGATT GACAGATTGA GAGCTCTTTC TTGATTTTGT GGGTGGTGGT GCATGGCCGT 600  
 20 TCTTAGTTGG TGGAGTGATT GTCTGCTTAA TTGGATAAC GAACGAGACC TTAACCTACTA 660  
 AATATGCTGC TGCATTTGCT GTTGGCCCTC TTAAAGGACT ATCCGTTTCA ACCCANTGAN 720  
 TTGAGCATA CAGTCTGTGA TGGCTAACT TCTGGGG 757

## (2) INFORMATION FOR SEQ ID NO:541:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 821 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1378RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:541:

40 GATCCTTATA AAATGGGCAA TAGACGTGTT ATAATATAAT ATACAAAATT ATAAATAAAT 60  
 ATTTAATAAA ATATAAAATT AATAATTAA GTATTATAAT AATTAAATAA ATTATTTATT 120  
 AATAAGTATG GATTTTAAAC TGAAATTTGT TAAATGAAA TAAGAATTGC TAGTAATCTA 180  
 45 TTAATAAGAA AGTAATGGTG AATACTCTAA CTGTTTGGCA CTAATCCTC ATCAGCGTT 240  
 GAAACATATA ATTAATAAAA GAATATTAAT TAATTTATTA ATTATTAATT ATTATTAATA 300  
 TTATTTAATA AATATAATAA ATATTTTAAT TTAAATTAIG AATTAATGCG AAGTTGAAAT 360  
 50 ACAGTTACTG TAGGGGAACC TGCAGTGGGC TTATAAATAT CTTTAATATT CCATTTTAT 420  
 AAAATAAATA TATTTTITAA TATATTTTAT AATAACTATA ATTAATAGT TAAATTTTAA 480  
 ATTATAAATT AATAATTTAA TAACTTATTA ATTAGAGAGT TAGGCTACAT CCCCCCTAAT 540  
 55 GCTATGCATT ATGTTTGGTA CACTCTAATT AATAAATAT AATAAATAAA TACTAATATT 600

TTATACCATN AATTATAATT ATTTTAAANA NATTTAATAT TATTAATGAA ATATATAATA 660  
 AGTATTNTNA TTTNATAATA ATAAAAATGA NAAAAGACC CCTAATAATA ATTTGCATTT 720  
 5 ANANTTACCC TTACACCTCC CNTTAAATTT TTACCCINAT ANCCNINTTA ATTAAGGANG 780  
 GNGNCCCCN TGCTCCCCN TGCCCCCCC ATTNANITTT A 821

## (2) INFORMATION FOR SEQ ID NO:542:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 852 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1378UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:542:

GATCCTTGGG TACTAAGAGT TAGACTTTAA TTAATAATAT TATTGTAGA AGATAGAAAC 60  
 25 CATACTGACT CAGTGTGTAT TTAACCCAAC TCACGTAAAC TTTTAATTGA CGACAGTCA 120  
 AACCTACTTT AGCTGTACA ACCAAGAGGA TAGGTTGAGT CGACATGAG GTGGCAAACA 180  
 TAACTTACAA TAGCTACTCT ATCGTTATAT TACCTGTTC AATTTTGTTA TCATAATAAC 240  
 30 ATTTAATTAT TATTICAATA ATTCTCATTA TTGTCAGAC TATTTCATTA TGTATATTTT 300  
 ATTAATTAAT ACATATTGGG CTTCGTGGA TATAATTATT GTTAATCCTA CTCATATATC 360  
 TAGTGTGTA AGTTCCTTAT AACTTTATAA AAAGGATTGT TATAAGCTTC GCTGCAGATT 420  
 35 GTCTTTTATT ATTATAAAAT AATATTAGGA GTTCTTTGCA ATTAACCCAA TTTACTCAAT 480  
 ATATTAAAT ATTGATAATT AAATTTACA ATTTAATGGG ACTATTAATT AACCTAGCG 540  
 TAACITTTAT TCGTTATCAA ATACCATTAC AATATGTATA TTTTGTTCAT TATGCCAAAC 600  
 40 TTACGTTATT GTTCTACTTG TAGGTATTAC AATATAGCA CAGTTATACC ATTATATTTA 660  
 TTTATATATA TOCCATATAA GTTTTATTA ACAATAAACC TGTCATTAT TTATCTNTTT 720  
 TATATAAAT ATNATTATAT TAATNATTA TTAANATTA NACCCNTATA TTAAATATAA 780  
 45 TCTTTTTTAA TAATAAATTA TTAAGGACTN TCCAACCTTT TTGAAAGACC CCGCACTNCC 840  
 ATTAATGTIC NT 852

## (2) INFORMATION FOR SEQ ID NO:543:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 845 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1379RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:543:

	GATCCAATTC TCTCGGIAGT TTCCTTCCAT ATAGAGACTG ATCAACTAGC CACATTCCCA	60
10	CAACAAAGA GTTCTATCT AACGTGCCAT CGCGTCTGT ATCTACCATG TCGTAGATT	120
	GAGCCAAAGT ATCTTGAGGT AGATTCGCTC GAGACCAGAT ATCTGTACA ACTAAGTCA	180
	ACATTAGACC ATCTCTGGC ACCTCTCTTG TCTCATGTGA GTTACCGTTA TTCCACCATG	240
15	GGAGCAAGTC AAGATAAGTG TCTCTATTGC TGACCCACAT TCCCTGTAA CGCTTTCTTT	300
	CCCTTTCAGT TAAGTACCA ACATCAAGGT GCGACTTCCA AGGTTTGCT TCGTTGAAGG	360
	AATTACGGTA TCGAAGATT TGAAGTATCT TCTGGGCTT TTTGCGGAT CTTCTTCTG	420
20	GACTTGGACT ACGGAGTTG CGGTGCTTC CGTAATCTC TTCAGAGTCT TCGCTGTCT	480
	CGCTTAGTTG ATGGGCTCT GAGCTGGAAC TGTCATTAG TATACCCGC ATAGTGGTTT	540
	TTAGCCGCAC ATGCAATTTA CTCTGCAAGA GAGGTTATC GTCTGGGTA TATATATGTG	600
25	ACGTTGGGG GTGATCTTG CTGGGGCTA GCGAGTTG CCGATGGGC TTGAAAGCTT	660
	CATCCACTTG GANTGCTGG TTGANANTT GSTATTATN CAGGAANATT CCTCCGTAGT	720
	CCAGTTCATA GGAATTTGTT CATGTCAATT ACAANTTTC NACGGGAATC TTTTGGGACT	780
30	CNIGTCAGT CGANGNATNT GTCNTOGTA CANCTCCGA TNCNCCAAAN TNNCNCATT	840
	CNCNN	845

(2) INFORMATION FOR SEQ ID NO:544:

35

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 855 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

40

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1379UP

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:544:

	GATCCGGAAG TTAACACTGC CTGGGATTC TAACTTGGCA ACAGGTATG TCGTGTGAA	60
50	CATAGTGGAT GGAGCACATG AATTGGGGTA TCAATACTGA TTTCATAATG CTTTCTGGAG	120
	CCATTGACCT TCGGTGACAA CCTCAAACAT AATTGGAGCC AATGGTTGA CTTTATGTGG	180
	GGAGATGCAG TATTOGGATG TATGCACTGT TGTTAGTTCA ATCTTTGGG GACAAAACC	240
55	TGTTAAGTGA ATTGTCTCTT TGAAGGCCA CCGCTCCAT CATCCAGCAG GTTTCCTAAG	300

TTTTACGAC GGGAAAGGCT CCGGCTTTCG TGTATACCT TAAGTGGTGG TGCTTTGTGC 360  
 TOGACGACA AGAATTCTT TGTAGCTTC ACTGGGTGTA CTTTCOGACC TTTACAATAA 420  
 5 TACTCTAAAG TTTCGGTCAG GAATATTCTA ACCCTGTGGA GCACGAGATT AGCCCGTGGG 480  
 TTTAGCGAGA GCGATATTGG TAGAATGCG TCCAAAATA TATCTTTTGA TGCAATTACG 540  
 ATTTCATAAC TCAATTCTTT TTCCAGTCA CGTGATATGA CTATCGGTTC GGTATCTTCT 600  
 10 ACAGAGTTTC GAGATAGTGT GCGGATAAGT TAATCGGAAC ACGACGTGGA CATTGCACTT 660  
 AAGGTCTAT GCGCTCAATG TCACTCAAGC AGGTATTTAC GTTCCCNATG TTAATAAGAT 720  
 CTTCTGTCTC GAGNCCGAN TNGANCCCA AGAAAAATA TCCCCCGGNG AAAANPAATT 780  
 15 CCGTGGNGTG ACGTGTGNAT NACCCNAGA AAACNTCTC CTTCGAAGT NCTTATAAT 840  
 CNNTNAAANA ATANA 855

## (2) INFORMATION FOR SEQ ID NO:545:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 847 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1380RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:545:

GATGGCATCG AACTGACCA AGTAAGGCAG GCTCTGACG GAGATCCAGT CGACAAGGTG 60  
 35 AGGAAGCGTG GTGTCTTAC CCTCGAACAC AATTGGCTCC TTCTGGCCCG GCAAGTGGAC 120  
 CGCCAAGGTC GGCCTCTAG TTGGGTACTG CACAAATACA AAGTGGTTC GGAGCAAGTT 180  
 GGCCAGTTTC TAAAAGGACT CGTTCAGGCC CTTCAGCCA CCGTCAACCA CCCTGCGGT 240  
 40 CTTGGACTCC GCAAGCAGGT CCTCCAGTTC CTGGGGGCC TCTTGGCCCT CCAGCACCTT 300  
 CACGGCCGGC TGGGCTGGC GCAGCATGTA CGCCACAATT TCTTGGCTT TGGTGGGCC 360  
 CGTGTATGCC ATGCCCTCT CTGAGCCCC ACTGTGGAAC AACTTCAGG TGGGTACCC 420  
 45 GCGCAAGTTC TGGCCCGGC ATAGATCCAG CTCTGCTCG CAGTCCACT GGGCCAGCTT 480  
 GATGCGCTTC TGGCCAGCT CCCCAGCGC CTTCAGTAC TCGGTGCA GGTGCTTACA 540  
 GTGGCCACAC CATGGCGCAT AAACTCCG CATCACAAG GGGTCTCTT CTAAGACTT 600  
 50 CCGGAAGTTC TCTCGGTCA ACTTGACACT GCAGAGTCT CTGTGCACT GGCATCTTGG 660  
 GCGTGTGCAA CTGTGCCAGC AACCGCGAT GGACAACCA AACCGCTGT CCAAAACNT 720  
 TCTGCTGCG TCTATCTAC CCGTGGTTC GIGNACTCT TGGGATCAA ANCCGGTNG 780  
 55 CNATTTTGT TTTATACTGA TCCAGAATC ACCCTNTNC AAAACNTTC CCGAAAAGA 840

NCGNIN

847

## (2) INFORMATION FOR SEQ ID NO:546:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 860 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1380UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:546:

GATCTCGCCT GTTGTGAGTG ACGCCGAGTT GCGCGAATTG TAGCAGTGGG AGAGGAACGT 60  
 GCGGACGGTA TCGTTTGCCA GCGCGACAAC GCGCAGCGTG CCCAACCCGA CCGCGTCCAA 120  
 CTGCTCTCTG TACATCTTGA CCAGTCTCTT GCGGATGGCA TCCTTGATGT TGAAGCCCTT 180  
 CGTCCAGGGG ATCAAAGTGC CGCTGATAG CGATGTCTGC GCGACGGGAT ACCAGAACGT 240  
 AAACCCGAGC TTCAGTTGGC CGCCCTCGCT CTGGAGCACT TCAGAGTGGT AGCGCTTGAC 300  
 AAAAGGCATT GTGCGCTTGG CGATGAAGCC GAACAACCTG TCTGATGTA CGTGGTGGTC 360  
 AAGGAGCTCC TCGGGGATCT TGACTTCGA CTGCTCCAGC TTGAAGTGT GATCACCGTT 420  
 GAGAGGCACC GAGCACACC GGAATTCTGT GCGGCAAGG TCCGCGCCA AGAAGTGGC 480  
 CTCTCTAGTG CCATTTGGGC TCGCCATCAC GTACGACGGG ATCATGGGAA GCGCAGGTA 540  
 CTCCCGTCTG TCTCTCGGTT CTTCGAGCCT GTTCATACA TTGATGAAG TACGCGGTCA 600  
 ACTCGGGGAG TTTGTCTCC GTCACTTGA AATCTTACA TATTTGTTC ACTGCTCTTC 660  
 GACTTTCCCG CGTTGCGCTT GTGCAATCT TCNAAAANAT CCTGGTACTG TAAANATTAG 720  
 ACTTCGANAC GTTGGTGGAG TCTTTCTNCG TTNCTACTC NCGGCGCTG TCNEANTAIT 780  
 TTGANGGCGN TCCAATAAAA AACCTTTTG GGGGTGCAA GNGAOCCTCC ACCCTCTTTT 840  
 GTTTCGCCNT CCGNAATGA 860

## (2) INFORMATION FOR SEQ ID NO:547:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 835 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1381RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:547:

GATCATTATA TTATAAAATA TAATAAGAA TATATTTAAA TAATAATAAT AATATGAAAT 60  
ATTATATTAA TTCTCCATTG GAGCAATTTG AGATTAGAGA TTTATTAGGT TTAACATCAC 120  
5 CAATAATAGA TTTTAGTTTT ATTAATATTA CTAATTTTGG TTTATATCTT ATAATTCCTT 180  
TATTAGTAAT TTTACTAATG AATTTAATAA CTAATAATTA TAATAAATTA GTAGGTTCTA 240  
ATTGATATTT AAGTCAAGAA ATAATTTATG ATACTATTAT AAATATAGTT AAGACACAGA 300  
10 TTGGTGGTAA AGTATGAGGT TATTATTTTC CATTAGTTTA TACATTTTTT ATTCTTATTT 360  
TTACTATAAA TTTAATTAGT ATAATTCCTT ATTCATTTGC TATAACTTCA CATGTAGTAT 420  
TTGTAGTATC AATAAGTATA ATTATTTGAT TAGGCTAAC TATTATTGGT TTTTATACTC 480  
15 ATGGTTTAAA ATTCTTTTGGT TTATTTTTCAC CACTAGGTAC ACCATTAATT TTAGTCACCA 540  
TTATTAGTAT CAATTGAATT ATTATCATAT TTTGCTAGAC TTATTTCAAT AGGTTEAAGA 600  
TTATCAGCTA ATATTATAGC TGGTCATTTA TTAATTGTTA TTTTAGGTGG TTTATTACTT 660  
20 AATCTAAANC CACAAATATT TAACNTTTIN TTAAGTTTNN CCNATGAATG CTATTINAGT 720  
ATGINTGTTA GAATTTNIAT CTTATACNG CTTANINIGA AGTINNAATA CNOCTATNA 780  
AACTATTTAT TCCTATTATA ATTAACANTT NAACNCCNA TTANTTNTA TNCIT 835  
25

## (2) INFORMATION FOR SEQ ID NO:548:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 863 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1381UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:548:

GATCATTTGC CAATATTCCC CACTGCTGTA TCATATAGAT ATTGATTATA ATTTCYAAAT 60  
CAACGTGATT GTTCTAACTT TAATTAACAA TTATGAATTT TTGGCTAGTT ATTATTTTTT 120  
AATTAACATA TACCTAAATC ATTATAAGCT TGACTTAAAA CAAATAATTA TTACATTATT 180  
45 CTTTATTTAT TATTAAATAT TTAGTTAAAT TTTAAGTTCA TTATCTTAA TTTTFACTCA 240  
CGAGTACACC ACTTATTAAT ACTATTAAT AATAATATTA ACGTTTGATT CGCATGTGTA 300  
ATGTCCTTAG TTAGCGCTTA ATCTGAACCA ACATCATGTT CTCATTATTA TTAATATTT 360  
50 TTAATTATTT TAAATAATTA TTTAATACGA AAGTTATAGG ATTGGAACCT ATGAAATCAT 420  
AAAGATTTAT AATAGCTCAA ATATTACACT TTAACCACT CAGTCAAACT TTCTTAATAT 480  
ATATACTTAA TATATGGTTT GATAATTTAC TTATAATATA TAGTATATAA TTTAATGATA 540  
65 AACTCTTATC ATTTAGGTGC GTAGGGTTCA CCCCCCTATT GCTAGTCAGC AATATGATGT 600



ACCTCCTAAA TGATAAAGAA GTATAATATA TAAATATTAA TATTAAAGTA TTTAATGAAT 660  
 ATTATTATTA TTTATTTAAT TATTATTTTT ATTTAGTAAA TAAATAAATA TTTCCTACTA 720  
 TTGAAATATA GGTTCCTINGA TTAGAAATAA GGNATNATAA TGINOCATTG ACTATTAAAT 780  
 ANIGTGCTCN CNGACTTCC CTATTNNCCN NGANAANTC NGAANATCAG AANANAGATT 840  
 CCNANATMTT TAATNNNCCC CCA 863

## (2) INFORMATION FOR SEQ ID NO:549:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 845 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1382RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:549:

GATCTCACAC GTGACTAAAA TCACTAACAC CAGTGACTT CGTGCACTG GCATGCTCCC 60  
 ATTCTGTGGG TCGCTAGCAT TCTGCCCCGG CATCTGTGTC AGGCCACTGC GCAGCTGACC 120  
 ACGCGTACC ACGGCAGGCT TCACGACAGA CGCAAGCTC AATCGCTATC TACGGTTTCA 180  
 GGTGGAATTT CTTACGGCA TCGATTAAAT TGCTTTTTTG GCTTCCTTTT GCGCTCTTTT 240  
 TTCCAGTGGG TTGCTTCTG AAAACAGGGA CTTAGCTTCC CGTAGTAAGT AACAGTCGTA 300  
 GAGGGTTAGG CATGCTGAG CTCGAGAGCC GGTGATGCAA TGTCACAAAC CCTGCTCTGC 360  
 GCAAAACGGG CACGAAGATT GAAAGTATCC AGGAGTGCAG CCCAGGGTCA TCGAGACAG 420  
 AATGGGCCAG AAAAAGCGAA AAAATGGACG AGGCTTTTAT ATATATATGT AGCGAGGCGG 480  
 GCGTTTCCA GAACGGGACC CGACACAAC TGTGTAGAA TTTCTATCTG CAAGGAATCA 540  
 AATACAAAAT GGAATCTAGA TTGGGATGGC TAACTGTTT GAACTACGAC ACTGGTCTTG 600  
 CATTGAGAAG AACTCCATCA TCGGACAAT GGTCTAAGA CCAACCAACC AGANACTTNG 660  
 TGGANCTTAA AAAGNGGGT TGAACATCCT GAGAAATGAC TTCTGCGNCG GTCCACAAAT 720  
 TNCACCATC GGTGNTCNA NACCCNNAAT TCGAGATINT NCCNGITAAC NITGGCCTTG 780  
 CTTTGAANCC AAGTNCCTGA ATNAAATGIN CCTNTCGAAA NITANTACCN TCCCTTACCC 840  
 AAANC 845

## (2) INFORMATION FOR SEQ ID NO:550:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 862 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAGL382UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:550:

25	GATCTATAAC AGGTGCCAAG TTGGCAGATT TGTTTCAGGG GCTGACGAT GTAGAGTCCA	60
	GTAGAATGCT CTGTAAACCC AGAGCATACT TTGGCGGAAA GTCCTTATCT GTTGAAATCA	120
30	ACTGGGGTAT CCGCTTTGAT GCTGTCCCGG AGGTTGATGC CTTTCTTGAT CGCCTTGTC	180
	AGTATCTGGT TGSTAAGCTC AATGAGCTCC GCATGACCAC GTCCCATATT GTTTTGAAAA	240
35	TAGCACGCAG AAGCAGGGAT GCGCCCATCG AAGCCGCCAA ATACTTGGGC ATGGGTGACT	300
	GTGACAGTGA TAGTAAATCG TGCAGATTAG GTCTTGCTAC CAATATTCTT GGGTTATAT	360
40	CTGCAGAGAT AAAGGCAGCT TTTCGCATGC TATGCTGCCC CGCAAAGGAA CTGGGTGTA	420
	TAGCCGTCA GTTCTTTAAA CTGAAGGAGG CATCATTTTC TCAAATGCCC CGTCAGCTCA	480
45	GGTTTCATT TGSTACAATC AGACCTTTAA CAACTCCAAA GAATCGTATC ACAGCGTCGG	540
	TTACAGAATT GCCACCTGTA GTTTATAAAA GGGCCACTCC TATTAGGAT TTTTTTGACC	600
50	GGCACAAGAG GACTCAGATT CACCATCACC TGATTCACTC ACATGATGTC TGCGTCAGCC	660
	TGTGCGAGT CATTCCTGGT GGATTACCTA CGATCTTGGG GAAAAATCCN AAAAAACATT	720
55	GACNATCTNA AACCAGACTT CTTTNTTGCN ATTCCCAAAA AAATTGGGNN GNGCCCNCGT	780

TNNATCCAN CATGCCCTTA AAATTITAGAT OCTTGACCT ACTCCNANTT GNTNCCCNAA 840

5 AAAAAAATA TCAATGININ CT 862

(2) INFORMATION FOR SEQ ID NO:551:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 823 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1384RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:551:

30 GATCTGCATC GCGTCCACCG TGGACTGGGC GGTGTTGGGC GTTCACGGAA AACTGGGGG 60  
 ACTCGTGAT GGTGCGGCA AGCGTCTGT AGCGGATGG CAAGACCTTC GCAAAGTAGG 120  
 AAAAGAAGTG GCTATGCGCG TTGGGAACCT CCATGGGCGG GCAATTGAGC GGCCCGGGT 180  
 35 TGCCGGCAAT TTGCGGCGCA AAGGAGAGAC TATGGATCAC GTGGTTGAAG GAGAGATGG 240  
 GGTGTTCTTT GTAGAAGGAA TGCTGTGGG CGTGGCCCTT GCCAAGTGC GCAGAGCCCG 300  
 40 GGGCGAAGTG AATGTTCCCG TGAACGGGT TGAGCTGCC GGTGCCAGCG ACGGGCATC 360  
 CCTGTTGAT CTGCTCTGC AGGCGCTCG TGTAGCCCTC GCGCTTGCAC TGCTCAAAGC 420  
 45 CTTTCCATC GAAAGTGGC CAGTTCATCT CTGGTACGC CGCGCGCAC TCCCGCAGG 480  
 TCTGACAGCA CACCGGCTCG CTGCGCGCA GGTCTGTGT CTGGTCTGG TCGGTGCGC 540  
 50 CATACACGC CACAGTAGTC TTGGTGTCT GTAGAGGCA ACGTCTGCC ACTCGAATT 600  
 55 OCTCTTCC CAGGTCCGTC CNTGTTGTC CACGTTTTT CCTTGATCT CCTCCAAGN 660

ATTCACGTGIG CTCCTGTGTC TCTNENNNIC CATTTCATAC TCCCCCGGAT CTTCGAAACT 720

5 TATATCNAAC CCCACTGUNC TCTGCTGCCG TCCTTCAANC ACTGNGGGTC TCCCTCCCCA 780

NTTCCCTCTT ANCAAANACN CGTTCACAAC ACCNNTATN CCT 823

10 (2) INFORMATION FOR SEQ ID NO:552:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 849 base pairs

15 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1384UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:552:

30 GATCACTTTG TTGTGTCTG CAGGATAAAT GGCTCGGTA CAGAGTTTGA CGAGTGTTC 60

35 TTGGCTGAGA CCGGACAGGT CAATCTCAGA GTTTTACTA TTCATTAGTG AGTAGATTGA 120

CGCGTAGTTA TTATCAAAGG CCACCGGGGA ATTGTTAAAG AAGTTGGAAA CAGATGATTT 180

40 CGACATGGTA TAGTTCGTGA GCTTAATTAG AACGGGCAGG TCTGAGCTCT CCGGACGGG 240

AGTACTGTTT TGAATGGGTG GCACAGCCAG TGGCGGTGG GGCGTACCA TGCCAAGCTG 300

45 TGCGCCCGCT GTCAGGCGCG CTGGTACTGG AGCGGCGCAG CTTATCGGGG GGTCTGCTGG 360

TGTGGGGAT TTGGAATAC GGTGTGTGCA CGCTGCTAGG TATTTTTCG GCTCCGCTGG 420

50 GCTCATCTTC TTCTCGGTCA AAGCAGGTC GAAGTTCAGA ATACCCCTAC TCTGTGCTC 480

CTCTGCAATC ATGTGCAACG TTTGGCGGAT CTCCCCAGC TTGTGGTGAT AGGGCGCCAG 540

55 GTGCGCCGAG TTCCGGATCA GCTGCGCTTT CATGCCAAG TTAACGAAAT TCTGTGACCA 600

GGGTGAGG CAGGCTTC CAAGCGTAC CCGAGUGAA ATGTTTTTC TGTGGTACT 660  
 5 TGTGTGAT ATTGAATCA ACAGGCCCC CAATAANCT GTCCACGG CCGGTTCCT 720  
 GANNAACCA GCATCACAC GCNAAAAAC GGGCCCCACN CGTGTGATC NAACTTACC 780  
 10 CTCAGACTG NMTATCANN GCATNCNCT TTTTINTCC GTGINTCTGA AANTNCNAG 840  
 CCCCCACT 849

(2) INFORMATION FOR SEQ ID NO:553:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 862 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1385RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:553:

GATGACCTC GTATCATGG GCAAGCAGC CACGACAGC GACAACAACA ACACCGGCA 60  
 GATGCTGGG GGCCTTCTCA ACTGGCCGCA GGCACCAAC GCGCGCGTG TTGAGCTGA 120  
 40 CCGACTGGC ACCGCTGCGA CGTCACGG CGAGGTGAG GCGGCGAGG AGGTGTCAG 180  
 TCGCGCGTG CCACTGTGG TCACCAAGGA CTTGCGGCTC AACAGCGCG GCTAGTCA 240  
 45 GCTGCCAAC AAGATGAAG CGAGAAGAA GCGATGGG AAGCTCAAC TCGCGCGTT 300  
 CCGCGCGTC GACTCGCGG CCGGCTCAA TGTGCTGGC TTGAGGAGC CCGCGCGG 360  
 50 CCGCGCGGC ACCGTGTGG CCGCTGGA CGAGCTGCTC GCCAACTCA GCGAGGCAA 420  
 GCGGTITAA CACCTATATA AACTACAGC CCTATTTC TCGCGGAG CAGGTGCG 480  
 55

CTCTCCAGCA GCCCCGGGG CTGCTTGCBC AGGTACGTCT GCTCGTACCA CCGCTCCAC 540  
 5 TCCCCGCGCT GCGCCCGGGC CTGCTGTACG CTCTTCCAGC ACGCGCGGGC ACTCTCTGTC 600  
 CCACGCGCGG AGGTTGCTCC CCGGCTGCT GCGGCGCGG CTATCTTCCA ACNCGGCAG 660  
 10 CTTCAGTTT CGCCCGCCCC CCGGCACTT NCCCNCCAA CNGNTTTTA CACNGGATNT 720  
 TNCCTTTTG TTNCCNTNN NTCCNCCC GTGGAANTGN TTGCCNTTG CTGANAATG 780  
 15 CTANCCAACC CCCCATTTG ATNGNGCCC CCAAAATNA ACTTTCCACT TTGCGGAGAC 840  
 CCGGCGCTGT NCCCTTNTT AA 862

20 (2) INFORMATION FOR SEQ ID NO:554:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 851 base pairs  
 25 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1385UP

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:554:

40 GATCTTGAG GGCTGGTTC TGGGCTTGA GCGCGGGC GAGGCGAGC TCGCGCGGC 60  
 GCGCGGACC TAGCGCGGG CCGCGCTGG CGAGTCAAC GCGGCGCTG AGGACTACTC 120  
 45 TCGTGTCTG TGGCGCGGG CTGGCTGCC CTGGTGGC ATGTGTTCG ACGGCAGGT 180  
 TGGGAGTGC GTGCCCCCT GCGCATCA GCAGGAGAC GAGCTCGCG AGCGCTGGG 240  
 50 CGCGGCATG ACGACCGC AGGTGCAGC ATTTCTGGG CGCTACCTG TGTCTACGA 300  
 CGTCTACTAT GCGGCTCTG TGGCGAGGG GCTCGGAAC CTGCACCGC TGA CTGTGG 360  
 55

GCTGGACCGA GACCGAAAAG TTACGTATGT TAGCCAGAAG AATATGTAAT GCGAGTCTA 420  
 5 TAGTTCTCTG TCCGAGATGT CCTCCAGGG GATGAGATAG CCGTCTGGT GCGCCTTGTG 480  
 GCGGTGCGC GCGCGGGGGC CCGCGGGCA CCGCGCTGG CCGCGGCCA TGCTGGGGG 540  
 10 CCGGTGCGAC GGCAGCAGC TGCCGCGAG CTCGTCAGT GCGCGCCAG GAAGGCTCC 600  
 GTCTGGGCT GCGCGGGCT CAACGCTGC AGTCGCGCA ACGCTGCCA NCAGTTGT 660  
 15 CCGCGTCC ACTGCGGG ACTTNTAAA CACTCTGCT TTCTGGAAT CCTTGACNA 720  
 NCGNGTTC GCTTNCAC TTNTATGAC CCCCCAAAC CCTNTTNG GCGTGGGGC 780  
 20 NCCCGCCCC NNNTCTCG CCGGTNG TGTCTTAC CCTNCCCTT TNCNTAAC 840  
 GTNANNTN N 851

(2) INFORMATION FOR SEQ ID NO:555:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 857 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1386RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:555:

GATCGACGT CATTTTACCT ACAGGCTGG CTTTGAAGA AGAGGCTGC ATGGTACAAT 60  
 50 GTCTAGCCA GGATCCACC TGTGACCAAG TTGCGCAGAG AACCGAGCT GCATGACCA 120  
 GTTAGCGGCA AGTACAAGG CAGCTGGAT ATAATGACG ATAGATTAAA CAGAACACA 180  
 55 GAGAGTACA AGACAGGCG TGGAGTTC GACCGGCAGA CCGCGCGGT GCACAAGCT 240

TCTAAGCTGC GGTTCATCGA GGACAAGCTG CGGTCCCTGT TTTTCAGCA GCATCCCTGG 300  
 5 GAGCTGTGGC GGCCGAAGGT GCTGCTGGAG AACATGGGA ATGAGCAGTA CGACTGGTGC 360  
 CGGATGTTGC AGCTAGGCAA GCGCTTGAC GGTGAGTCTG TGGTGACGG GACGCTGTAT 420  
 10 CTGCTGAAGT CCGGCGCGCA CCGGAGATG CTGGCGGCAT ACGACCAGGC GCGTTTGGAG 480  
 TTCTATGTC TGAGGATGCA GCAGGAGCTG GAGGAGCAA TAGGTAAGA GGAGGCCAGC 540  
 15 ATGGTTGGCG CTGTGTTCAA GACAAACCT GTGGAGCAG GTCTGCAGCA AGAGCAGAAG 600  
 GTCTTGACA GTGAAAGAA GACTTTGTG CCGGTTTGC CCTGATTTT GGNAAAAAA 660  
 20 ACTCTACAAA GCAGTCCTG GGCNAACCC ACGAAGAAA AAGAAGAACC AGGACNNTGC 720  
 CGAACCCNAA GACNCCACT GTGACTCCN TTGCCACTT TGTATAAAT TCTACNNTT 780  
 25 TTATTCCTT NGTACAATC NANNTACTGT TGTGTCAT CATGTGCCC AACAGGTTCC 840  
 CCCCNTTGA NAAANGC 857

(2) INFORMATION FOR SEQ ID NO:556:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 856 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1386UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:556:

GATCCATGCC TGGTATAAC TGAGCAGAAG TGTGCATGG AACAGAGGG TTTCTTGT 60  
 55 CCTTGCCAGT TCCCCATTC CCAAGTTGC ACTGCAAAT GTGAATCATT GATGCTTGT 120



CGTGGCCATC GGTGGCTGA AAGATGCTGT TCCGTAGAC CGCATTCGT CAAGCGGAAC 180  
 5 TCTAGGGGGC GCGGTGAGAG TCCAGATGAT GAATCTGAAG TTGAGGCCCA GCACGTGTGC 240  
 TTAAAGATT GTAATCGGGT GCTGCTTTGT GGTATCCACA TGTGCAATTA CAAATGCCAT 300  
 10 GCAGGCAAT GTCTGCTTG CTTAGAATCA GATTCOAATG ACCTTATCTG TCCCTGTGGT 360  
 AAGACAATG TACCAGCCCC TGTCGTTGT GGAACAAAGC TCCCTGGCTG CACTCATOCA 420  
 15 TGTGAAACT CGCTGCTGA TACTTGGCCC TGGGACACA GTCCACCTTC GCATAATTGT 480  
 CATCCCTAG ATGAACCTTG CCCCCATGTA CCATCACAGT CAAGAAAAC TGTGCTGCG 540  
 20 GTAAAAAGA GATCAGGACA TTCTGCTACA ATGATGATTG TGTGTGTGA GACCGTGTA 600  
 GAAGCCATGT CCTATTGCAA TCACITCTGC CAATTNCTG TCATTGCGAT GGCAATGCCA 660  
 25 GCAAACTTGT TAGCAAGCCT GTGGTCAAC ACCGAAAGCC GCACNTGTTT GTTAGGGAAA 720  
 TGNITGGNT NCGNATGCT GAATCCCTGT NNNAAAAAA AANNCCGTC CGTTGTCCAT 780  
 30 CNCCACCAAT NTGNTGATT TGCTGGAAGA GAANGTTCG ACACNCCCC GTCTGNAAG 840  
 AATGTGCAAT CNNGN 856

35 (2) INFORMATION FOR SEQ ID NO:557:

(i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 830 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1387RP

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:557:

GATCAACCAC TGGTGTGGCT ATACATAGGA ACCAAAAAGC CTTGTGGGCT GGTCCTCAAG 60  
 5 TAGTATGTGA TAAGTTTGA ATCCTTGTAC GGGTTGGCT TCCGGGCACC TTTCATATTT 120  
 TCGGTAAAAG CCTCCACAAG GTTCTATCT TTATCCTTGA AGTTGTCTCC ACAGGACTCC 180  
 10 CACAAGAACG CCCCAGCAAG CTTCTTATCT TTACGTAAT CTTCTTTAT TTTCATTGAA 240  
 TCCACATTGT CGTAGACGAC AAGAGTTTTA GTATTAGGAT CGTAGCTATA TCCAGAGACC 300  
 15 CAAACATGT CAACTTCTC TGGCCGTGA GCTAGCGCA ATTGGTTGTA TAGCCACATA 360  
 CCGGTTCCC CTTCTGATCC TCCGCTACA CCAGATATT TCTGGCAAT TAGTTGTCA 420  
 20 CCATCGCCCC GAAGTTTGT GAAGCCACGG CCATACGCTG CCATGCGAG TGCAATTTTT 480  
 CTTGGGCTGA CCTTAAATG TTGGTCAATC ATGAGTATCG CATCATGTGC ATTCAACTCA 540  
 25 TCAAAGTTGT CAATACCCAT ATCTTCATAC CGACGTTAT CTAGGTGGA TTGTACGGCG 600  
 AATTGTTAGC ATTGTACAAG TTGCTATGTT AGCCTGTTG CTCTGACCAT GCACCGTGGT 660  
 30 ATCGTATGTC ATCATATCCN CATGCTGAAA ACTGTTCACT CNCAACCGGA AATGCAATNT 720  
 CTGAAGAAGC NGGCTGCCAG CTINATTGAA CCGTCTGTIN TCCCCGGGCC CNANATNTTT 780  
 35 CCATCTCNNT GTTNGCAGCG GTTCTTTTNA AAAGTGGNTC GNNNCACCA 830

(2) INFORMATION FOR SEQ ID NO:558:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 857 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1387UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:558:

5	GATCAACACA ACACAGAAGC ACCCAACGCT ACAGGACTTC CCTGTCTTTT TGCTTCACA	60
	CGTCCAGCCC AGAGGACGAT TACACCGCCG TCAGGGTTGG CTAGTCTCCG GCAGCACAGG	120
10	CTCCTATCA CATTITGCAT TTTCACGCTC GCACATGTCA CAAATAACCA AATACATCCC	180
	CAAAAGCAGC CTTTTTCTCT GCGCGTTCTT TCTCATGGCG TCAGACTTCG TACTCGCTAT	240
15	GAGCGGCAAG GGCACGGCGG CAGGGAGCTC ATCTACAGGC ATCGGGTGGC GGGCCAGCG	300
	TCTGCAGCGG CTGGGCGAGC TCGTAGCGCA TCGAGATCCG GCAAGAGGCC CGTCAGGTGC	360
20	ACTTACGAGC ATCGAAGAGT TTACTAGGAG ATGACAGGCG CTGCAGTCC CTGAGGCTAG	420
	CCTCCCGAGG CGGGCGGGCC GCTTGGTATA GGGTTTACAT AGCAGAATGG CACGAATATT	480
25	TGCTCTAGGC AACTGCAGGG ACGGAAGGGG CTTCATGGCA AATCCTTGCA CCGCCGGTG	540
	CCGTATATAA GGTGACGAG CTGCGCAGCT GGGCGGGCA TGCTAACAC GACAGGATGT	600
30	CGAGTGGTGC GCGATTATAT ACGACAAGCC GGGGTGGAGG GTCGGTGCAC AGGCAGGACA	660
	CCTGGGGGAA ATCCCAATTC GTTGAACAAG GGAAGTGGTG CAGCGGGGC AATCTACAAG	720
35	AGTTGTGTAN GCGGCGGCTC ACATTTGGCG TTNCATGAC CCTGTGCGA TCCANGAGA	780
	GGNCTGGCAT NTCCANAAAC CTCCCACAG CTGTNGACTT GAAGTCNGC CTACCTTGAT	840
40	TTGCANNCCA GAAAAAN	857

## (2) INFORMATION FOR SEQ ID NO:559:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 821 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1388RP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:559:

10

GATCCACCCA AATTGCTCTG TGCTGGACCA GCTTCCCAA CAGTCTCGA GGTAATCAGG 60

15

CTACTGGGTT CCTATTAT GGCCTTCAAT AACTCTTAT ACTTAATTAA GAGGTTAACT 120

TCCACATCCG GTATTTTCA CATCTGAGAT ACTGGCAAGC ACGGCTAGCT TTAGGAGAAC 180

20

TGTATCCCAT GACTTGTGGA CAGGGGCTTT ATGAAAAAAC GCGTGTCCGT GTAAGGATAT 240

AGAAACATA CTGAGATGGC TTTTGTTCCT GAATCAGACA TTCTTAGGTT ACATTTTGGG 300

25

CCTGGCTGTA CAAGGCACTA ATATGAAGAT AGAGTTATAG CCGGTGAGAA GGAAAGGCTC 360

CCTGGGTGT TGCATGGGAT TTCAGGGTCT TGATAATAAT GCGAGGCAAT CATATAGATT 420

30

ACCACGAGGG AAACATCAAC GCTATTAAAG GTCATCCTTT TTGACATCTG TCGAGGAAGT 480

GGAATAGCT GTAAGGCAA CTCTACAAGA TCCCGCCGTC TCCAAGACCA ATGCTAAGCA 540

35

CCACAACCTC AATGACCTGA TTAATGGGGA GCAATTCCTT CCTCGAAAGT TGGCAGGTCT 600

ACTGACTGGT TTTCTGCCCA GAGATCAATC NATTGATCCN TNATCCCTTA CATNCCGGA 660

40

CTTTNGAAAA CCCAAATTAA AATTCCGNAN NCCAAAATCC NGGATTGNC CACCTTGAA 720

CTACCCAGNC GGCCTATTA TTTTATAATT GGNACAANN CCGATCCCC CGNNAACGN 780

45

GTAAANCGAA AACCCCCCGG NNTTGGACC MNCNITTNC T 821

## (2) INFORMATION FOR SEQ ID NO:560:

50

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 838 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1388UP

(vi) SEQUENCE DESCRIPTION: SEQ ID NO:560:

GATCCAGCGG	CTTGGTAGCA	TGCTGGCCGA	GGAGTTCGGC	TGTTCTGGTT	TTGCCGCGTG	60
AGGCTCACTT	ATAGGTGCGG	ACTTCGATTG	CCACTTGTGG	CCAAGACTTG	CTTCTTTACA	120
TAGCTAAATG	CCACTGATCA	TATAGACTGC	TTATTCTGCG	TTAACTGCCT	CAACGTTCCA	180
TACCATCTCC	GCGTACTCCT	CTATGCAGCG	GTCAGTCTG	AAGAAGCCAA	CGTTGGCGAC	240
GGACAGGATC	GACTTCTGGA	GCCAGGCGCG	GCGGTGCGCG	TGGTAGACCG	GGTCAAAGAG	300
AGCCTGGCAG	GCTATGTAGG	AGTGGAAATC	GTCGCTCACC	AGGTAGTAGT	CCCCGTGCTG	360
GGGACCGGAG	TCCACCAGAG	GTTCGAATTC	ACGCAGGTCC	TGAGGGGAAA	ATGCGCCCCA	420
GGAGAGCGTC	TCCAGTAGGC	GAGCAATGGG	GGCTGGCAAC	TCTTGGCGGT	GATACCGGTG	480
CCGGTAGCGG	AGGTCTTCCA	CATCTTCTGC	GAGATTACCA	AAGAGGAAGA	TGTTGTCTTC	540
GCCGATCTCG	CGTGTGATCT	CGACGTTGGC	GCCATCGAGG	GTGCGGATAA	TGAGACACCA	600
TTCATAAGGA	ACTTCATGTT	NGAATTCCCN	GAACTCATT	ACCGCTGTC	AAANGTCTC	660
ACTAATCGGA	ACNCGGANAA	TATTGCGCCG	GAANATGTAT	CCCGAATGAA	ACCCCTCAGA	720
AATACNATCC	CTCTCTTANA	CACNGCCNC	TTATTACCTA	TATNGCTGCC	NTTTACCCG	780
GCCCTTCCCC	CNAAAAATCC	TTGAGAAGNC	CCCTTNTNTN	GGNCCCGTIN	CCNTTTTA	838

(2) INFORMATION FOR SEQ ID NO:561:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 826 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1389RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:561:

5	GATCTTCTTT TTGAAGCCCA CAGACACAAA CTGTGATGGA GTGCTGAGA CGCCAGCTTT	60
10	GGACGACTTC CTTTCTTAG ACCGGGAGT CTTTTCCTA GGGTATGTC TTTCCTGGT	120
15	GGGTGTTTG CTCACAATG CCTTAGCTC TTCGAGACA ATCTTTGTGG ATAACCTTG	180
20	GGCATCTAAT GAGCCCTTTT CAATGACACC TTGATOCAA CATCTTCAT TCCAAAGAT	240
25	ATTGGTCACC ACCAACATAT TAGTGGAGTT ATCTTTCCC CATGATAAGT AGAATCTGGT	300
30	ATGTATTCA AACCCACCTC CCGAGGGTAC ATCTGGGTC TTGTTATCT GCTCCACTAC	360
35	TATGTGAGAG TTCACATGC AATGTAGGAT TTTTCTCTG ATCAAGCATC GGTCTGCTT	420
40	AGGACCAACA GGATTGTTA ATGGCTTAT ATATTCATAT TCCCTCACAT TATCTGAGAA	480
45	TTCAGACGGT ATAGCTGAAA TATATGATT AGCTGTTT TCTAATATCT TTGCAAGTA	540
50	GGACGTGTC TCACCAATA ACAGCTTGA CAGACACC AATGGTGCTG CGATGGAATC	600
55	GAATCATCAA CAATAACATC TCTGGTTC TGTATAGGT GTTCTTGTG GGAGGAGCT	660
60	ACTAGGGGCA TATTNGTAAA TATTAAGANA CATTGTGA CTGTNGAAC TGCCNGTAC	720
65	TTGATTMTAT AAAACCTC NN AATGTTACG TTCACNCTT TNGAGANTIN ANCCCTCNA	780
70	TCCNTTCNC GTGANTTNC ATCTCCCTC NCTTACTG ATACNT	826

(2) INFORMATION FOR SEQ ID NO:562:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 839 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1389UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:562:

GATCCGTGGC ACTTTCAACA TTGTGAACGA CTTACACCG GAAGAAGAGG CTGOCATCCG	60
CCGTGAGAAC GAGTGGGGCG AGGACGGCTA GCCACGGCCC GCGTCTATGT ACCATAAGTA	120
GCCGATATCT ACCGCTGGCG GCGGGGGCCC CGCCCGGCGC ACGGTGGGT GCCAGGAGCT	180
GGTCTGCGCA CTATCCGTGC CAAAGTAAGA AAGATGCTG GTTTATGTGG TCCGCGCGCC	240
GCTGGTTACA ATTAACCGCC CCAGGTCATC GGTAGACGA GCTAGCTACT CGTTGTCTTG	300
TAAGTGAGTT AACGCACAAG GGGAACTATT CGTGTGGTCA GGCAGCAGAG ACGCTGCAGG	360
ACATACTACG AGTTATTTCT CATAACTAAA CATTTTGA ACGTTTGTG CGGGGGCCAG	420
GTCGTTTGGC AAAAGGGGCG GGAATAACA GGGAGGAGAG GTAGATGCTC TTCTCAGCA	480
GAGGCTAGCA AGGATGGCAG AACAGCGGA GCGTGGCG TCGTCAGAG AGAGCGCGCG	540
GCCACTTTTC AAGAAGCATA CCGGGGAAG GCGGGCGAA GCGCGCGCG ACGTGCCAA	600
AGACGGTTAC GACCCGAATG GCGAACCGG GANCGGGCCC GAGCGGTNAT TTCAAGTTGG	660
CGCGGGGAG GCGCGANTTT NAAACCGGTG TTAGACAAA AACTTGTCCA GTTCNACCC	720
GTCGTTTACC AANNNNNAA TCTCNCCCC NGGTNGGTG GCGGAACCC CCNCTGGCTT	780
ACGGGNGCA CATCTCTCCC CCCCCCCCA TTAAANACC CGNCNCTTT TNCCTGCC	839

(2) INFORMATION FOR SEQ ID NO:563:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 740 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1390RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:563:

GATCAAGTAA TCAATCAGTT AATAATATTA AGAATATAAT AITGAGACAT TTAGTCTAGT 60  
 CTATTAATTA TTAATTATTT TGTAATTGTT TGTTAATTGG TTGATATTTT ATTGATTTTG 120  
 TTGACATTTT GTTGACATGT TGATATGTTA TAAAATATAA TTTAATATTA TTTTATATAA 180  
 TTATTATTAT TATCTAGTCA TAGACTCATA TAAATATGAA TATATTCCAT TATTAATTGT 240  
 TTAGGATAAA CATAAATTAA TATAATAACT TATTTTAAAG TTCAATAAAT ATGTTTCATAT 300  
 TTATATGATT AATTCATAAC GTATTGGATA TAAATATCTC ATACCCTTTT ATGAATTAAAT 360  
 TAAGCGGTAT TAAATTATTC TGATTGGATT AAGTTATTAT TTAATTTATG TTCTTAACAA 420  
 TTAATTGATT CCATAAATAT CGATATTAT TATTATTAT TAAAATATTA ATGATAATAT 480  
 TGTAATACTT CAATTATTTT ATCAAATGGC AAGTAATCTA TTAATCMITT AATACGATTG 540  
 ATAAGAAAGA AAAGAATATC ATCTATGGTA TAAATATTTT CAAGTATGAC CTCTTCAATA 600  
 TAATTAGAAG TTTAAACTTG TAGAGAATTA AGAATTTAAT ATGAGTCTTA CATTAACCT 660  
 GATATGAACC TTTAATCTAC TTATTGTTT AACGTTGAA GAGGAATAG TTAATCTNAG 720  
 TATNACTTAT ATATTGATAC 740

## (2) INFORMATION FOR SEQ ID NO:564:



## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 773 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1390UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:564:

GATCAAACCTA AGAAACCTAA TAAACTAATA GAACCTATTA GATAAATTAT AGAAATTTCA 60  
 CCAAATACAG GTTTTTTAGA ATAAGTTGAT ACAATATGIG ATATTATACC AAATAGTGGT 120  
 ACAATTATAA TATATACTTC AGGATGACCA AAGAATCAAA ATAAATGTTG ATATAAATA 180  
 GGATCACCAC CACCTGTGAC TTCAAAGAAT GATGTATTAA AATTTCTATC TATTAATAAT 240  
 ATAGTAACAC CAGCTGATAA TACTGGTAAT GATATTAAATA ATATAACAGC AGTAATTAAA 300  
 ATTGATCATA GAAATAAAGG TATTTTATGT AAAGTTATAC CATTAGTTCT TATATTTAAA 360  
 GCTGTAACAA TAAATTAAT AAGTCCTAAT AATGAAGAAA TAGTAGTTAA ATGTAAAGAG 420  
 AAAATAGCTA AATCAACAGA AGCACCAGAA TGTGATTGAA TAGAAGATAA AGGAGGATAA 480  
 ACAGTCAAC CAGTACCTAG ACCAGATTCA ACTATAGTAG ATGTTAATAA ACAAATTAAT 540  
 AGTGGTGGTA ATAGTCAAAA TGAAATATTA TTTAATCTAG CAAATGATAT ATCAGAAGCA 600  
 CCAATTATTA ATGGTAAATA ATAATTACCA AAACCACCAA TTAATATAGG TATTAATAA 660  
 AAGAATACTA TTAAATAAAG ATGTCCAGTA ACTAATACAT TAAATAATTG ATTTTGACCT 720  
 TGTAATATT GTTGACAGGT GCTGATAATT CTATTTCTAAT AATAAATGAT ATA 773

## (2) INFORMATION FOR SEQ ID NO:565:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1391RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:565:

GATCTTTTGG CTCAGGTTA TTCCTTCTT GGACACATTT ACCAAGTGA TTTTCAAGAC 60  
 CTGACTGGCG CATTAGGTTG TTACGTTAAA GCTTTTGAGC TAGATGCGG CGACCTGGTC 120  
 GCTGCTAAAT ACATGGTGA ATACTATAGT GACCTGTGCA ATTGGCAGGC GGCGGCCAAC 180  
 ATCTGTGACC GTGTAATCAA GAATGATATG CATCTCAATT CCGTCAACTG GCGGTACAGA 240  
 GTTCTGGGTG TTTATTATTT GGAGCTTCAA CAGGAGGCTG AATCGATCGA ATGGTTCCAA 300  
 TCTGCTTTAC GGATTGATTC GTCTGATGTT GAGGCATGGA TAGGCTGGG ACAGGGGTAC 360  
 GCGCATGTG GCAGAATCGA AGCCTCGATC AAGGTTTTTG AAAGGGCAAT AGAGCTGTCT 420  
 CCAGAACATA AGTATGCAGG GTTATTCCTG GCTATATCAT TATGCCAGCT TTCAGAAATC 480  
 GAAAAAAGTC TCGAGGCCCT GAGAAACTTT GTGAATAAGT ATCCACAAGA AGCTATCTTC 540  
 AAAGAAAGAC TAAGTGCAAC GTTGGTGGAG CATGCTTTGC AGTTCTTGA CCAAGGTTAC 600  
 CTGATAAAG CGGCACTTG CCGTCTGAG GTGATATCGA TCATAGAAGG CATGTATCTT 660  
 GAACAGGTAG AATATACAAC CAATATGTGG ATTACTTTAT CAAAGGCTTT GAATATTTTT 720  
 ATTCCAGCG GTTCTCAGTT CGACAACCT 749

## (2) INFORMATION FOR SEQ ID NO:566:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 767 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1391UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:566:

GATGGCCGCG CAGATTGTGC AGAAGGIGCT TGCCTAGGG TCTCTTACGA CAAAGGACTA 60  
 CATGCAGTCG TTGGCTTCOG ATGTTTCTGT GAATGATGTG GCGTCCATGT TTGTGAAGCT 120  
 GGTGGAATA GGCTTTCTGG TCCCGCTTTC CAACGTGCAC TACATGCCAC TGGCCGATCT 180  
 ATGGGATGTG CTCTACAAGA AGGAATACAA TGCTATTCCA AAGAATTGGA CGTTGTGAGA 240  
 TGCCAAGAAA CGTCAGAAA CAAAGGCGAA GACGAAGGTT CAGTTCAATA CGTTGCTGAA 300  
 GAATGTGAAA ATGAGCAACG TACTAATGAC TGATATGCAG ACTTCAATGA GACGTGTCCA 360  
 AGACAATCTT CCTCTAACAT TTAACITCGG CCGGTACATG AAGCACCGGC GTTCTCGGCA 420  
 GCTGTACAG TTTGCACGTT CCGGTGTGGG GACGTACCA GCCATGATCT ATAAGGTGGC 480  
 ACTGAAGATA ACCGACAAT GTGCCGTGC GCTTTCAGAT CCGCTATGTG AGACAGGCT 540  
 AATGCAGGAA CTGAGGAGC AACTGGCTAT TCAGGAAGAT ATGGCGCTAG ACGATGAGAA 600  
 GCTACCGGCG GTTACATTCA ATGGGTGGA CATATCCAGA AACTTACCAA ATAACATGGA 660  
 CCTACGTGGC AACTGACTT CTATGCCAAG AAGATCACCA GAACGTTGCA CGCACCAAGG 720  
 TCAATCCAT AAGCGGATGA AGCTGAAGA TGGGATGGCT GTAGCAG 767

## (2) INFORMATION FOR SEQ ID NO:567:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1392RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:567:

20	GATCCCCACC ACCGTACACC GGGTCCCCCG CACCACCCCG TTCTGTAGGT ACCGGTGGCA	60
	CGTCAGCAGC AGGTTGGCGG GCATCTGGCC GATCGGTAGG GACTCCGGCA CCTCTGGAG	120
25	CTTCAGGAAC TGCTGGTCTA CGAAGCGCGA GCTCTCGTGA ACGATCATGT ACGGGTCTCTG	180
	GCCGCAAGGG TTCCCCCGCG CGCTGCCATC GTCAATTGAG TGGTCTGCCA GGCACGCCCCG	240
30	CGGTAGCGCC AGGTTGCTCC CCGCAAGCGA CTGGAAGTTG TTGAGGTCCA GCGGCGTCTGT	300
	GTGCCCCGAG TTGCGGCACA TCAGCGCAAC GTGAGTCCCA CGTGACGTCA GCACCGACGT	360
35	TGACACCAGC ATCCCCCTCA GCGCAACGAG CCGCGAAAG CTCTGTGAGT CCAGCTGCCG	420
	CAGCGCGCTC TCAGCGCGCG CGCTCTGCAG CTCACCTGC ACCGCGCGCA GCGGCGCGCG	480
40	GTCTTCGGCC CGGAGCGCGG CCATCCCGCG CGCTATTTC GTACCGGCT GCTCAAAGAG	540
	GGCACCGTC TCACAGGCT CGTCGCGCAC AGTTTGTACA GCGGCTGTT GTACCAATCA	600
45	GATGCTCGGT GTTGACGGCC AGCGCGTAGG CCGCACCAGC AGGTTGTTC GCAACTGCTC	660
	CGGATATAAN NAACCGCGCG TNAACGAAA CTCNGCACA AANCGCNGA AGAGCGCACC	720
50	NCCTCGGANC GGTGCTTCCG CCGCGCGCTC CTC	753

## (2) INFORMATION FOR SEQ ID NO:568:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 752 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1393RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:568:

GATCACGGAT TGCCCCAAGT ANTGGCGAAC AGTCGTCAAN TCTGACATAT CTCTTGCAAA 60  
 TGCTAGGCTC TGGGGGCTTG AACTAACCAT TACTTCTAAT ACCTGGCTAG CTGGCTCCAA 120  
 ATCCGGATCC AAAAAAGCAA TATTATACA TAACTATACA CGAAATCTCA GTTCATGGCT 180  
 AGCTAGCTCA TCGTATCCGG GACTGGGAGA GGAATCAAT GCTGTGGAAC CCTTGGATA 240  
 TGGCAGGCTC GGCGATGTTG ACCAAGGACT CGCCTGGGCC AAACATGGCG ATGCCACNTA 300  
 GGTTGGTGTC TTTCGGCTTC TGTGTGTTAG TCACGACCTC GATGGGCAA AACTGGCACT 360  
 TGAGCAGGCC GTGGAGGGT CGTTGTCTCT CGAAGGTGAA CTGACCCAC CCATTGACTT 420  
 GGGACTTCT AGGGTCTTGT AGTAGGTTGC GTGGGAAGGG CTGTGGCCAG CGTATATGCG 480  
 GAGCGTCTCC NANGTGTAGG ACTCATGAC GAAGAGGAG AAGTACATGG CAAGCTGGAT 540  
 GATGTCAAAG CGTTGCTGA AGAAGAGTC TATGGTGTGT GGCTGGGAGC CGTCGCTTTG 600  
 CCANAANGTG GGGGGTTAT CATCCNAAGG CGTTTTCAT GGGGTANCCG GCCTTGAANG 660  
 AAGAAGGCTT CCANTAGGCC AACNAAGTA TATCNACTTA CCCTGGTTCT CCAATGTTTG 720  
 CAAGCCCNCC TGTATTTTG NCCAGAAAG AC 752

## (2) INFORMATION FOR SEQ ID NO:569:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 773 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1393UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:569:

GATCCAGGAT ATCATGCCCA AAATCCTTGA AGCGCTGCA AAGCGCTCG TGCAAATCAA 60  
 GAATCTGCAC ACGGCAGAGA ACTTACTCTT CGTATTTTGC TACCTGACTT CTATTGATGC 120  
 GCGGCAGACA GTGGACTTTC TTTCATCAAC GATCATCGAT GAAGCGGCGC GTACCGCCCT 180  
 CCAGGCTATC GTTCGGGTTT GGCTAGAAGC ATTUGAGGTT CTCCGGGAG AACATAAAAT 240  
 CAAAGAGAAC ATTTTATCCC TTTCGAAGCT TTCTTCTCTT GAGGATCCCC GTATAGGGGG 300  
 CATCACGGTC AATGGGGATC TGATTCCCCA CGATGGCGAC ATCATAATCA CCGCTOCAT 360  
 GCGCAAGAAA ATGCTGATA AGTACACGCA GATCTCCGGC GCGGAGAAGA TAGTCAAGCT 420  
 CTTTGTTGCA GAACTAGCCT TCCAGCAAAA CCAGCCTGAC CCGGCCGTT ACCCTAAAGA 480  
 CGGGTCTGGC CCGCTGACC CACATGACTC CGAGGGAGAC TCAGCTGATG AAGACTGGGA 540  
 GGATGTGGAT GACATCCTTG ACTACGAAAA ATTGCGGGAG TACGGGGATG ATAGTGACAT 600  
 TGACGACAGG GTGACAGCCT TTTATTCACA AGTAACATCG AAGAGGATGT AACCCTCTG 660  
 CTTACTCAAT TCTTCAAGGA AGCGGTTGCC AGAAATGCTT CTGGCTTCCA GGAGATCTAT 720  
 AGCAGGCTCA CTGAACAAGA GAAGAAGACC TATCTGCATG CATGGTATAG GAT 773

## (2) INFORMATION FOR SEQ ID NO:570:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 755 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1394RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:570:

GATCTGACG ATTACCGGT ATGATTATAT CCAGCAACA TGGGCACAG CCGCACACAC 60  
 AGACATGATA CTGGTCGGTG ATTGCTGGC AATGTCCAG CTGGGTCATG TGTCCAGGT 120  
 GGACCTGAT CTGCAGGAGT TCCAATACCA CGTCGGGTG GTGTGTACAG CACCAGGCTC 180  
 GTCTTTTATA ATTGCAGATA TGCCATATGG TAGCTTTGAG CGAANCATTG AGCAGGGAGT 240  
 AGAGACGGG ATCTGGCTTA TGAAGACATC CAGCAGGGTG GGTGCTGTGA AGCTGAGGT 300  
 TGGCGGGAA GAAAACGACT ACTGTCTTGA GCTTGGCGCA GAGCTCTGCA GGCGCGGGAT 360  
 CCAGTAATG GGCCATGTCT GGCTGACCCC GCAGGCGATG CATGCATTGG GCGGGTACAA 420  
 GGTTCAGGC GCAAGGACT TGGGOCAGGC GCTGGCGGG TACCACGGG CTAAGATCT 480  
 GCAGGCTGCA GGCTGTTTTT CCATGTCAT CGAATGCATT CCAACTAAAC TAGCGGTAT 540  
 CATAACGAG AAACTCAGTA TACCTACTAT TGGCATTGGC GCGGGCCCC AGACAAGGG 600  
 GCAGGTGCTC GTACAGTGG ATCTGCTGG CATGTTGCCA NGAAGGCC CAAAATTTTG 660  
 TCGNAAITC CCGGACTTC CNGGGGAGC CCATANGTC CTGTGCCCC CTATGTTGAA 720  
 AANGTGOCA NGGNTCTTC CNAAAGTNG GGCA 755

## (2) INFORMATION FOR SEQ ID NO:571:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 773 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1394UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:571:

GATCGAAGTC CATGAAGGAG CGTAATGGCC TGTGGAGCT GCACCGCACT GGGTGGTAC 60  
 ATAGCGGAT GTAGGAATGC GGGATAACG ATTGGGAAA GCTGACTGG CTGCGCTCT 120  
 AGCTTCAGCT CAAGCTGGCG CAGCAGCGTT GCTATAGCT GTGTGGGGA CAAGGTGAC 180  
 ACTTCAGTTG CAGTAGGAGC AGGTAGCATA CGACTAGTGA TATCGAAGTC GTGCGGTAA 240  
 TGAGGATGAG GGTCAATTTC TGGCTCGAG CGCTGGCTAG CACCACAAT ATCACCAGT 300  
 CCATACCTCC ATGCAATTCT GAGATCTTG CTACGTGGA CGGTCTTTC ACCCCTCCG 360  
 GCTAAGTTTT GCACCGTAC CTTCGATTC TCTGGGAAA TCGAGATTT CTTCACCTCT 420  
 TTACGTGTGC CCTGGAATAT CCGGCGAGC TCTTGGCAT ACTGAGTGT GAGCGTGATG 480  
 ACCACCACAT GGTATTTCC TCCCGCTGT GCGCGGCGAC TTTCGCGCG GTATGTCT 540  
 GCTCCCTGCG CTGCAAGAG CTTTCCAAGT ACGATGCAA AGTCTGTACC CCGTGTCT 600  
 TCACACAGAA GCATCTGGCC CATTTGCAAG CCGATATGCC CTAGGAGCCG ATCCATATCT 660  
 GCACAAACCG TGGATGTTGT GGGATGGAA GTAACCGCG ACGGACGAA GCGCGATGC 720  
 GACTGCTGC CAGCTCACTG TTGGATGCA ACCTCTCCAC GCTCTGAA ANC 773

## (2) INFORMATION FOR SEQ ID NO:572:



## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 746 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1396RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:572:

GATCAATCAT TCTAGAGCTG GAGCAAAGGA TACCTATAGG CTTGCGCTCGT CATGGCCCC 60  
 TTTCATTATT ACATACCCAT CGTTCACAG CGTGTACAT TCTGCCATTC GAGAGCAGGA 120  
 CACCCAAGTT TTCAAACAGA ACAGCGCTCGT TCTCTTGGTA AAAGTTGGAC CTTCTAACGG 180  
 TGTCTCATC GAAGCGCTCG TCGCCACTGA GGACCTTGAG GCGGTGGAG GTGGCTTTGA 240  
 TGTAGTCGTT GAGCATAGGA ACCGGGTCGT CGGCAAGCTT ATTGAAAAT TGGTACTTGT 300  
 TGGCTGTGGA GCTGANTGC AGGGGAGAGC AGTTGGTCT TCTTTTCGAG GGTGGCCAGC 360  
 TGCGGCTCGA GCTGGCTGCT GACTGTGTTG AATTCTGTGA GCAGCAGCAT CCGCTGTGG 420  
 GCAAGGGAGT TTTGGGGGGA CGCGGTTTCG GGATCCTTAA CCGGACACG TGGCAGGGG 480  
 ATGTGAAGA CCAGTTCCG GTAGGTGGAG GTCTGTGCA CCTGGATGGT GTAGTGAATG 540  
 CGCAGGGGG GGATGGGCTT GATGTGGCG TTGACACTG GGCAGCTCG GTGAGCTTGA 600  
 GGTACTTGG AGGCTCTCG GCGGGCCGA GGAACCTAAC GATCATGGG TCACCTTGA 660  
 TGACAACTTG TCGTGTCTT GGTGCTCTT GCGTTGCCG CTNGGGTCTG CGACNAAGAA 720  
 CTCTTGAACA GGATTCTTG TNAACC 746

## (2) INFORMATION FOR SEQ ID NO:573:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 772 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1396UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:573:

GATCGGTAC TTAGAGGAG TGCAAGACCT GGCTGACTT ATCTTAGGT TATTAGCTAT 60  
 GACGGGTG TGCGATTTC TGCCAAGG TTTAGATGC ATCAACTCC TGAATTGCA 120  
 CTACTTTGG TTGTGGTGG ATGAACAGAA GGCCATGACT TTGTTGAGC GTATTAGATA 180  
 CTACAATTG ACGTTTGAG GGATCTGTGT GGTCTGCTC GGGCTGATGT ATGCCGTGTA 240  
 CGTGGGGGG ACCAACTAA ACGAGCGGG CTGGACGGT CTGTTGAAC AGCTGAACAA 300  
 GTCTCTCTG GAGGAGCTG AGTTTGGGG CGTGGTTTT TGTGCGGG ACAAGGAGC 360  
 GCTGCCATC ATCAGGATC GGAATGGCAC ATGTGCACC GCATTGCTA CGGGGGCAC 420  
 GTGTGTGAC CATATTGTG TGAAGGCTC CTACCGGGG CGCTCAACC CTGTGGGGT 480  
 GCTGGTGAG AAGCTGCTG GGATGTTCTT CCGCAGGTG GTGGACGCA CGGCGATGAG 540  
 TTGTGCAGG TGACGGTAC CCCAACGGG AAGTGGAGA AGGACGAGAA CAGCGCGTT 600  
 CAGGGAAGG AGGACGGCT GAACCGGTC CGGTTCATG CGTCGATGT CCACAAGAAC 660  
 GCGATGAAG ACTGCGGG CAAGAATAC TTCTCTCTT TGAATCAGC GTCCGAGGC 720  
 GAAACTCTC CATGGAATA CTCATCATG CCGAACAAC CCACTGAACA AC 772

## (2) INFORMATION FOR SEQ ID NO:574:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 753 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1397RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:574:

20	GATCCATTATTTCTACAGCA AATATTACAC GGGCGGGGGA CCTCGACAA TGCAGAATTC	60
	GATGCATACA CAAAACATAT TACTACAAAG CTTTCAAAG GTGTCTCTCC CACAGACGCA	120
25	TTTCTAGGCG CACTCAAGGT TTACATTCTC AATTGCAGTT TGAAACGTTT ACGCTTCAG	180
	AAAGCACAAG TTATACTTCT TGATAAAATT GCGATATTCA TCAATACAAA TGIGGTCCAT	240
30	GTGTCTGTCC AATCGATACA TAGGATCTG AAAAGTTTAG CTGAATATT TATTGATGCC	300
	AAGGAATATA AGCGACTCAA CAACGTCGTC AATATTTCAT TCAACGCATA TGTGATGTAT	360
35	AAGCATGAAA GCCTTATAAG ACTTGCAGCA GATCTCGAAT TATTTCTCTT TATGTCCGTC	420
	AAACAGGACT GGTCAATGTT TACCAAGTTC GAGAAGTTA TTCTGTGCGC TTCAGGAGAC	480
40	ATCTCAGTAT CGCTCTTTGA ACAGTGTTC AATGTTTATG TTATGTTCGC GGATCCCTCA	540
	TTGGCCGGCC TATGGGATGT CTGCTTGAAC AAGTCGTTGA AGTGTTCCTA GAAATTGGGA	600
45	CTAACTAGTT ACACAGACTT TAAGGCATCG TCCGAGCCAA TGCTAGTGTT GGTATACAGT	660
	GGATTTGTTT CTGATATTTT TACAATACCT TATAATGGCT GGGCTCCGCT ATCGAAAATG	720
50	TTATTCAATG CATTAATGG GGTCTATAAA TTG	753

## (2) INFORMATION FOR SEQ ID NO:575:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 767 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1397UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:575:

GATCTGAAAT ATTGCTCACC CCCACCGTGA CCTATGTAGA TGAACGTGCT GGAGTTGGTG 60  
 ATCATTCTGA CGAATTCATC CTCCTCTGGC TTTGAGCCAG TTAATATCCG TGTGGAACCC 120  
 AAGTCGCAAC AAAGTCCTGT AAAATGTTCT TTAAAGCGCA GTTCAGTCCT GGTCAAGTCC 180  
 CCATCGGGGT TTAAACAAT GGAAAGCTG CTGCTAGGT TAATCTTTGG AGAGATCTCT 240  
 CCTCTGAATT TAGTTAGTAG CTCTGAAGG AAATTTATGG ATGGTACGG GCTCACAGAA 300  
 GCATCGGAAA ATATACTGAG AGATTCOCAT GGAACCAAC TGCAATCGGA GCTTATTACC 360  
 AGAAACGTGT GTCTTAACCT TGGCGCTCT GGTGCTTGG CATGATAGTC GTGAATTAGT 420  
 TCCTCAAGTT GAATAGTAT GAGATGAACG TCAATCTCAT CATAGGCATT TTCTTGGCCA 480  
 TGGAAAAGCA ATATGTCAA GATGAAGTAT ATCAAGTCCT CCATGAATTC CACCTTCTTT 540  
 TCGTGAGGAA GGGCATCCCA ATCCACCTTT AAAAATAACT CTAATATGAA ATCGTCCACC 600  
 TGTTAGAACA TAGACGGGTT TCATACCTGT CTCTTGTG GAAGATTGT TGTAAACCT 660  
 TTGAAATCCT AATTGAATA NTGCAAAATG GTTTATCCA ACTGTTTTTG GTGAAGAAA 720  
 CCGNGAATC CCATATCCAG ATCTCATGG GGCNTUNAT CTACATC 767

## (2) INFORMATION FOR SEQ ID NO:576:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 774 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: FAG1398UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:576:

GATCGCTCTT CTTTGAAAGA ATATGTAGGC ACCCTCTCCT ATCTTGCGCC GGAATGGTT	60
CGCTGCAAAG ATATGAAGAC GATGACACCT GCAGAAGCAG AAAGAATCCC AGAGTACGGT	120
GCAGCAGTGG ACATATGGGC TCTTGGTGTG CTCTGCTACT TCATGATGAG TGGCTATATG	180
CCGTTGATT GCGAAGAGA TGCGAAACT AGTGACTCCA TCTTGAAGGG TGACTATTAC	240
GTTGACGAGG AAGCTGTGC CAAAGCCAAT GAGAGCTATA ACAGCTGCTG GAACTTCATG	300
CAGCGCTCCT TTACGATGGA TGATAATATC CGCGCGGCG CACAGCAACT CATGGGCAC	360
GCATTCATGC GGAATACTT CCAATGGCT GCGCCAATG ACTTGGCATC TATCCCGCTA	420
CTCGAGAGAT CAAGATCTC GAACTGCTG CACCACTTAG CGCGGCATC ACGGCAACG	480
TTTATCTCGT CTGGCGTGC GGTATTAAC GAGCGGCTG TGCCAAGTGT TGGCTGGGT	540
GAGGCAATT TGATAAGTT GCGGATACT TTGCGAAGA CTTTCCCTC ACTTGGCTTG	600
AACTATGCG CTTTGTGCT CAAGCGAATA CTCTAATCC TAATAAGAAG AACTCTACTT	660
TTGTCTTGA GCGAGCTCT CCCACGGGA GTCTAATGAA TGGTGTTC AGTCAACCC	720
GGAAAGTAAT CCAACCTCAA TACGOCAGTC CTTTGGCGCA GAAGCTGCG CCAA	774

## (2) INFORMATION FOR SEQ ID NO:577:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 756 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1399RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:577:

GATCATTACT CGCAGAAACT GAGATGTTAG GGGGACCAAA CTCCTTTCTT TGATGAGATA 60  
 CGGGAGGATG COCTUGGAGA ACCAGAACAA TGCAGCAAAA GGCACGAAGA ATGCCAACGA 120  
 GAAAAGCAG CATCGCTGCA TATGCAGTCC CACCCCATAG TAGTTCTCTG CGCCATATGC 180  
 CTGGGGGCAG AGTGTATCTA AGCTTGTTGA AATACCCCTN AATATTGCGA AAGTGATATT 240  
 GGTGGTCATG GAAGCCAGGG AAACCGCTGC CAATCATTC TTTCACAGGT GACCCACAAC 300  
 TAATGCACAT ACAACCGGAA ACATCTGCTC AAGCAGAAAT GTAAATATGA GGGGCACGGA 360  
 GTAACACAGA AGCACCAGAC TCTCGGACTT CACGGTGGCT GGTTCGTGCT CGAGATCTCTC 420  
 GGACCCCTCG AACGGGCTGG AGGGGGCGCC CTGTCTGCCA ATGGAGTAGT AAGACAGCTT 480  
 TCGGGCCCGT AGAACAGGCA CTTCTGCCTT GTCCGACGGC AGTTGCTGCT TAACCCGATG 540  
 CATGAAGTGA GTGTAGTGCA CCATGTCTGG CGCGGGGCCC TCCACATCGA CGGCCACGAT 600  
 GTCTTGGCG CTGCCGTTAA CAGTGGAGTA CGGCCGTTGG TGCTCTTCCA ATATCCAGTC 660  
 TACATTCACT GCAGAGGACG GCCCCCTCA CTGGCAAGCG TGAACGGCAG CGAGACTGTC 720  
 CCGACAGCT CTCTCTGCTC AAGCAGGCC TCCTCC 756

## (2) INFORMATION FOR SEQ ID NO:578:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 775 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1399UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:578:

```

GATCTTGTTAC GACGGCCGCG GAAGAATCGG TGCCATCGTT TCCAACAGAC AGTTCCAGTT      60
TGAAGGCCCA CCACCACAGG CTGGCTOCAT CTACGCCAAG GGTGGGCCC TAACCGAGGA      120
GGGCAACTTG GGCCTAGGTG ACAGCGACGT CTTCTACCAN TGTCTGTCCG GCAACTTCTA      180
CAACTTATAT GACCAGAACA TGGCACCACA ATGCTCTCCA ATTAAGCTCC AGGCAATCAA      240
ATTGGTCGAC AACTGCTGAA CAGCCACAAA GGTATATAGT GCATATATTG TATTAGTTAA      300
ACTAGGAATT TTGTTGGCA GCTAGACTGC CCTACGTGGA TTTCTGTTG CGGATCCTGG      360
GCTGCCGCTG GCGCTGAAGC ACAAGAGCAA CTGCACAAC ACTGGGCTAC CGCATGCTC      420
CTGTGCAATT TTGCGCGCG TGGACGTGCG TGACGTCAGC GTGCGAGTG ATCATAATAT      480
GTCCCGGGCC AGGCCCTTAT TGTGGCGGAC AGGAATGCAT GCGGAGGTGC AAAATGGTGC      540
AAAATGGTGC CGATGCAAC TCTAGGCCCC AGCTGAAACA AGATTACCTG GGCAGCCTAA      600
AFTTGCAGCG GCTGCTGCG AGCCACATG TGTATGTGTC TTTTACAGTT CTTCCTGGG      660
CTGTCCAATA CAGCCGATCG CGACTTTGCT GGCACGGGC CACTAGGCTT GCGGACAAA      720
AACTGCAGGC GCGCCGCGT GAATGGCGCC GCACGATGTG CTGCCGGGA ATTCC      775

```

## (2) INFORMATION FOR SEQ ID NO:579:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 757 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1400RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:579:

GATCTGTCA AATATGGCCA ATACCAAGCA GCGCGTGTG GTAGAGCATG TGGTGAAGT 60  
 CAAACCTCA AGCAGCCGGG TTTTGGACTG TGCACAGGAG ATATTGTCTC CATTTCACA 120  
 GTCCAAGAAC AAGCCCAGGC CGGGGACTG GAATTGTCCC TCTTGTGGTT TTTCTAATT 180  
 CCAACGGGC ATTGCATGCT TCGGTGCTC CTTCOCAGOC ACTAGTCAG TGAAGGTCAG 240  
 CAAGCTGTAC AAGCCACAGC AGCAACGCCA TTATCAGAAC CCACACCAGC TCCATCGAA 300  
 ACAACAGGTG CAGCAACGC AGATTACGA CCAAGACACA CAGCAGCAIT CTCAACAITT 360  
 CAACATCCAG CAGATGCCGC AGCAACTCCA AATGCAACAG CAAGCCACG GTACCGTTCA 420  
 AGGGGGCAGT AGCATGCAGC AGTACAAGCA CAGGCTCAG CACGGCTTAC AGCGTATCT 480  
 TGGCTGCTAC CAACAGCAGC AGCGAAGTC ACAGCAGCAG TACCAGATGA ATCAGCAACA 540  
 GTTCAGATG ATCGCTGGCG ACGCCAGAGA CGGTATAAC GGTACAACAA AATGGTGCAG 600  
 GGCAACGGGC AGAACGGTAA TTCTTGTACG GAAATGGCTC CCTGGGCAGT AGCAACGTCC 660  
 CCTCAGAGC TGGGACTGG AAGTGCTTGA ACTGTTCTTA CCATAATTTT GCCAAGAATA 720  
 TTGTTGTCT GGGTGTGGT AATCCAAAGA CGGCAT 757

## (2) INFORMATION FOR SEQ ID NO:580:



## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 775 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1400UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:580:

GATGGGGGG TACTTCAGGT CATTCTCTC CACCACCACC ACCAGCTGCC GGGGGGGGG 60  
 CTCATACAGC TGCTACGCCA CGCGAACATG TGGCTCGGCC TGGGGACAT CGGCTCGTA 120  
 GAACTGATCC GCAGCCACCA GCGCGTGGC GCACTCGGC CGCGCGCTT GGTTCAGGT 180  
 CCCCACTAGC TGGCGACCG GTGTGAGCTG CACCATCTCA GGGGGCATCA GGCAGCTCAG 240  
 CGTCGATGCC ACCACCAGTG CGGCGAGTA CGCTCGGC AGCTTCGCG TGAACTCGAC 300  
 CTGCGGCTCG GCGCGCGA GAAGCGAATG CGGCTCATA GGGCGAGGC AGTCAGTTG 360  
 GTGTCTGGA AGACGCTCAG ATTGCCATTG TTGAACTGT CCACAGTTAG AACTTGCCT 420  
 ATGCTACCTC CGCGCGGCT CGCGACGCC ATAGTCACAT ACTATCATCC TCACACAAC 480  
 CAGTACTTGC TCGAGTCCC AACTCAAGCT AACGAGTACC AGACTTGGTT TTGGCTGTG 540  
 CTGTATGCAT TCCAATGGTT TGTATAATCG AAAAATGTT CAGTTGCTCA GCACATCTCA 600  
 TACAAGCAGG AACAGAGCG AGTCGGAGC CAAAGACCTC TTAGGCATTA GTATCGGTAG 660  
 CTAGGATGTC GGCAGAACAG TTGCGACAAG TACACGAGT TCAGGGCGA ATTGGAGGAG 720  
 CTGTGGTGA CAGACAGAAG CTGGAGAGC AGCTGCAGGA GAACAGATC GTGAA 775

## (2) INFORMATION FOR SEQ ID NO:581:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1401RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:581:

GATCTTGTTG TTGGCAATAC CCTGTCTTAC GTTGAAAGA AGTGTCTCTG AGGTGTCCAT 60  
 CAACAAAAT ATTACCAGTT ACAACACCCA CCCGAACCTT ATTGGCCAAA ACATCCAACA 120  
 ATGTCTGCTT AACTGCACCT GAATAACCCA TCAGAGCAGT CAAAGTCCCA GGCTTTACCC 180  
 AACCATCCAC GTTGGTTAGG ATCTCTCTGG TTTCATTCTT AATCTGTATA TCATAGCAGA 240  
 CATCTGCCCA GTGGAAAATG CTATCAGAAC CAATCTCTCTG AATAAGTTTG CGGATTGGT 300  
 CACTTCTTAT AGTACTAGAT TCCTTTCTCTG GTGCATTACC AATTTCTATG TCGCAGTTGA 360  
 TGGCCTTTT ATTITGCTTT TTATTTTCT TCAAAGTTGA CCTAGGAAT ACAGCCATTT 420  
 CACTTTTITG CATCCCACTT TTATTATACT CAATTAAGAT CAGATAACA CCTAAGAAGA 480  
 AAAATGCATA AGCAAGAAG ATCCCCCAAT TCATCCACTT GTTTTGGTG TTGTAACCAT 540  
 AAGCAAACTC TATGTAACGG GTCCATTTA CAAAGCTCTG ACCAGGAAC GCTCCCAACG 600  
 ACAAGCAGAC TTTATTGAA ATAGGAATC CCTCATAGAA ACTACCATCG GGTACCATTC 660  
 GAGAACATTC GAATATGGT CGTCAAAAT CATTCGCAAC CATGGCTTCC ATGATGGGTG 720  
 CGA 723

## (2) INFORMATION FOR SEQ ID NO:582:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1401UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:582:

GATCTGCTGA GATTAGCGT TGGTGTCTG ATTGTGTTTC TATTGGAAG TCTGCAGGAG	60
CAGGCTTTGA AATAGAGTTC TTATGTTATT TAACGTCCGG GTAAOCAGTA TACAAGCATA	120
TGTTTATGCG TATGCTAGTT ATATGCTTTG AAGAGGTGGT CTGCAGCTGG CGGCTATTTT	180
TATTTTATTT TTTCATTCA CTAAGACTTT ACATTTTTTT TTTAAATTAT TTTTITTTGG	240
CTAAGACTGT GAACAGCGAT TTAGAAAAA AGCGAAAAAG TTCAGGAGGC CTCAGCTACA	300
TGATATCCCA GGCTTTGTAT TTGTGAGACT GCACTCCCGG GCTAGGTGTG GACCAAGAGT	360
TGACGTGGCG CGGGGTGGCG ATTCAGGGC TTCACAGTGT GGTAAATTTA ACAATTITATA	420
GAGAAIAGAG ATGCCCCGAC TTAATCAACT GTGGGGGGCG CCAAATTGCA TTTTTTGGAG	480
TTTGTUGATT TTCACAGCAG ACGAGAAAGC AGGACAGGGG GCGCGCGCCA GGCAGTCCCG	540
OCTGCAGGCG TGAGCGGACA CAGAGAGAAA ATACAGGAAG ATGAATACTG ATAATCTACA	600
GATTTCAITG ATATCTCATT GATCCGCTGA TTATCAATGA AAGTACCCAA TGATCCATGA	660
AGCCAGTAGA TGTTAGTATA TTTTATTAAA TATATGCACC TTTGTTATCC AATCTCTGTT	720

## (2) INFORMATION FOR SEQ ID NO:583:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1402RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:583:

20	GATCAGGAGC CCATCAAGGC GCCTAAAAAT CGCATCCCCG CTGTGGTATT TCCCGACTAC	60
	GGCGCTGTG CTTGAATAC AATTACTGCT GTAGTTCCTC CTGTGATGCT GGTGAAATG	120
25	TTGGGGGGGG AAAGGGTCTG CCTGCTGAAA GGAGCTGAAA GGTGGTGACG TGGTTCCGGG	180
	ACTACTAGCG TCTGCAACCG TTTTGTAGCC CAAAACACGG AGGCCGATTA CATTCGGGTC	240
30	AGCGGGGGGG AGGGTAGAAG ACCTCCCTTG ATGGGAGTTC ATGCTCTTAC TGGGGGTGTG	300
	GTAATAGTAC TCACCACCAC TGCTUGACGA AAGCGGAGCA GGGGGTAGCG CTGCCATCTG	360
35	TGTGTCCCTC CTGGAGGTG CTTCTAACTG TGCCAAAGC AGCTGTGCTT GTTGTCTCTG	420
	GTGGGGGTCC ACCTTGGCCA AGAGCTCCCG ATCATCATGC AACATCTCCA GCACTTCCAA	480
40	TTTCGGCCCT AAGCCAGTG ACTGGGCTTC CAGGTGGTCC ATTCTCGAT GCTTGATCAT	540
	GACCTGCAGA TGGAGCTGCT CCAGAATCTC GGGCTTCGCT ATCTCGTATT TTATCCGCTC	600
45	CGTCTCTCTG CTCTCAGCC CCAGCGGGCC CTCTCCGCA CGCAGCCCGC TGTATTGCTC	660
	GTGCCCCAGG GAAAGCTGCT GGGCGACTT CGGTGTGCCC AACTGGTAAT ATGCCGGCC	719

(2) INFORMATION FOR SEQ ID NO:584:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 726 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1402UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:584:

GATCAAGTTA TCGTTGATCA AAGGTCATAT ACCCTTTTCT CTAAGCATGT GCCAGGTTTC	60
CTTCGGGGCG CGTAGGTATG GTTTCGGGTA CAACGCAATG AAGCAGTAGG CATAGTGGTT	120
GAAGTACTCT GGCATCCATT CAAAGACACC AACAAAGGCA TCCAAGATTG ACCACAAGCA	180
CTGCATCCAC CCACTGTGGG ATATCCCGGA AATAATCCCA TTCCGAAGCA GCTGAATAAT	240
CTGCCGCAGT AGTTGAATCA GAGACACAAT CAGCGAGCCA AAGCAAATGG ACCCAAAGGA	300
AGTGGTCAAC GCTCTCTTTA ATGAGCCAAA AGCTGGCCAA CGTGGCATGC CTTCGGTCCG	360
CTTCGAAAAA TAGTACCAGC AGCGGTAGAT GCCCGGATG GTGCAATGAA TCACATTCTT	420
GATGACCTCA GAAATGTAGA ATCCACAGAA GAAAACGAGT ACCAAAATAC CAATTAACCT	480
TCCACGTGAG CAAGAGCCAC CAGATACATC GCAGCCACCA TTCTGGCTCT TCGGGTCATA	540
CTTTATGTAG GTCCCAACCA AACTACAGA GAATATGACA GAGAAAGCAG CCGACACAAT	600
GGTACCTAAT AATGACACAA GCCAGTCTG TGGATGTTTC TTCATACTG ACATGACCGT	660
ACGCAAGACA GCGACACTAA ATGGAATCTT TGAGGCGATT AACCAGTAGC ACACCGCCGT	720
CAGAAAT	726

50

(2) INFORMATION FOR SEQ ID NO:585:

(i) SEQUENCE CHARACTERISTICS:

55

(A) LENGTH: 731 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1403RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:585:

GATCGGTTC	TTGAGAAGCA	CCTAAAGCCT	GAAGTCTGG	CAGAAGGAT	CAAGGGAACC	60
TCTTGGGAGG	GTAAAGTTAG	TATTAAGTTG	GTAGAGGAT	TGACCACTC	GTATTACTTC	120
GTCAGCAAGT	TGTGCCCGA	ACACGCAAAG	TACCATGCAG	AAAAGTTGGG	TCTAGTTTGA	180
GATTTGACGT	TGGCCTGTT	AATTTGGTATA	TACTTACATA	TTTAGTCATA	TGACGGCTTC	240
AAGTACTCTG	ATTCTGCATT	ATAAGTGCAG	CGAATGCCA	GCCTCCGGCA	GTAAATGCCAA	300
CGCAAAGTGA	ATTTGCCCGT	AGTTCAAGCT	TGGCCGGTTG	CAGCAGCGT	ATGCTCCGAG	360
CAGACTCAAA	CGTCGTATT	TGGCGGATAT	CTACAGCTC	GTGGGATCT	CCCTGCCCAA	420
GACAGCCACA	GATATCACTC	TCCAGCCCCC	AGGAGTAGAG	TTCACTTTTG	TGGTTTAGAG	480
CTAGGTTGTG	GTAGTCTCCC	GCAGATACAG	CAATAAACTT	CTGGCCTTGT	TCCAAATTCA	540
TCTTCATGAA	TGAGTCTCTG	ACGATATCAC	CATTATTAC	CTTCAGGGTG	TATGTGCTAT	600
TCTGGGTACA	TAAAACCACT	GTCATGCAAG	ATGCCTCAAT	CTTGGTTTAA	CCGTCCATCA	660
AATGGCAAAT	CAACGGTTTT	TGAAACGCCA	TGAGTGTATA	TCCACAGTTT	GCGCCCATTG	720
TTAGTAATGT	A					731

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(2) INFORMATION FOR SEQ ID NO:586:

(i) SEQUENCE CHARACTERISTICS:

55

(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1403UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:586:

20

GATCTCAATA TCAACCAACT TGTGACGTGCT CTAAACAC CATATGCGGA GGACATTATG 60

TCCATCACCG TGTACAAGGA CAATGTTTTT GGCACGCACA ACCAGGCGAT TACCGGGTTC 120

CACCAAGGGA ACGTGAACCT CTGGAATGCT CACCAGGAC TGTCTTTGAG TAGCGAAATA 180

25

TTGCGCAAGA GCTGTACCAG TAATCGTATA GATCGGATGG TTA CTGGCGG AAATGATGG 240

TCATTAGGCT TGTGGAATAT TAACGAATGG CTGAACGTA CAGCGTCCC GGTGGATCA 300

30

GCCCCGACCG AAGAACACTC GCTTCCTCT GCGAGCGCC GAAATCTTG GACCGAGTAT 360

CAACAAATCC AGTTAGATAA CGATCATG ATTCACAC TCGCGAATT CATTAGTTAC 420

35

CAGACTGTTT CCCAACTCC AGAGCCCCAA AATATCATCG ATTGCGTAG GTGTGCGAC 480

TTCTGCAA ATCTCTTAC TAAGCTGGT GCTAACATT GTGGCTTAT ACCTGTCAGT 540

40

ACAGGCAGCA ACCCGTGGT TCTGCGCAG TTCAAGGCA ATGCAGCGC GCCCAAACGC 600

ATACTATGGT ATGGCACTA CGATGTGATA TCGCGGACC ACGTGGCAG TGGGACAACG 660

45

ACCTTCACG CTCACTTGG AAAATGGTA TCTTAAGGA AGAGCGTGT TGATAAC 717

(2) INFORMATION FOR SEQ ID NO:587:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1404RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:587:

GATCTGCAAC	GTTACTGATT	ATCCTGTAAG	CCCTCTTTTG	GGTTAAAACA	TCCTGTGAGT	60
TAACAGTGGT	GTTGAAGATA	GAAAATAAAG	CAGTGTATGA	TGATGCTGGA	ACAACCCCTGG	120
ACATAACCAC	CACAAGATCT	AGAAGTGTTG	CACTCATTIT	TGGCTGGCCC	TTCACAGGTT	180
GGCTAGAGGC	CTCCTTATCC	ATGGCATTCT	TTAGTAATGC	GCATACGTTA	TCAAACGIGT	240
TAGACAGGTT	TTCCGCAGAA	GTAATTTTCA	AGTATGCCCT	GATGGTTTCC	AAAATATAGC	300
TCCGAGGGTT	GGGTGCAGTC	TGGTGTGAGA	CATTGAAAAG	AACGCCAAC	ATATTGGGCG	360
ATTCTGCGGA	GAGGTATTCT	ATGTTTTTCT	CCGCTTCTGT	CGGCGGAAT	TGCTGTCCCA	420
TAATAATGTC	GTCCTTATAC	GCACCATCTC	TGTATAGAAG	ATTACTTGTG	ACCAAGACCT	480
TCAATCCATT	GCATATGACA	GTACGCAGIT	CAATTCTGGA	ATAAAGTAGG	GACGCTAACT	540
CTGCAGCAAA	CTCATCCGTG	AATACATCGT	TTAGATCTTT	TGGAAGAACG	CAGAACTGAG	600
GGAGGTAGA	CCACAATTGG	TCAACAACAG	TCTGAAGTAA	TGTGCACTGG	ATAGACTCCT	660
TATCCAGTTT	CTCAATGGTG	GACTCGAAAT	GACGAATGGT	AGGAATAAAT		710

(2) INFORMATION FOR SEQ ID NO:588:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)



(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1404UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:588:

5  
 10 GATCTTCAGC AAGATCAGCA CCACTTGACG CACTACAAGA AGTACCGGCA CTGGCGGTGG 60  
 CAGGCCAAGC GCAGGCTGGC CGGCTGCGAG TCAGGAAAAG TCGGAGCAGG TCGTACAGGA 120  
 15 GCGCGAAAAC GCGAGAGGCG TGGCGAAGCT GGGCGACGGG CTGACGGTGA CCGCGCTGAC 180  
 GGGCAAGATG AGCTACTACC GGCAGCTCCA GGGAAAGGIG AGCTGGTTGC TCAGTTCTGT 240  
 20 GTCCCAACTA ACGAGCTCCA CCGGGGGGCC AGAATCGAC TTCCTGAGC AGTTCATCAC 300  
 CTTACTCGTG AACACCTACC ACGAGATGTG TCTGGATCCA ACGTCACAC CGTTGACAA 360  
 25 GACTAACCAG CCATCTGCTT TTCTCAACAA GGTAGCGGT GCTGCGGTGG AGCGTTCTGA 420  
 GCAGCAGAGC ATCGCCATCG GACGTCCGGG CGATAAATGG TTGTTGAOCT GCACGGGGAA 480  
 30 GCGGCTTCTA CAGGAAATAA AGCGGGAGAC CGAGGAGGTT CCACAGGGGT CCGTGGGCTC 540  
 GGTGGGCTGT TCCATGAACC ACGGCACCTT ACAGCGGAT CTAAGCTCG CTTTTGAGA 600  
 35 CGAGGGGAT TTCTTCTACT GGGATCCGA CTTCCAACTG TTCCAAGCA TCAAGGCAA 660  
 ACTTCTAACC GACACTGGAG ACATCTCGGG CAAAAATACC CCATGTCTTT GGATC 715  
 40

(2) INFORMATION FOR SEQ ID NO:589:

(i) SEQUENCE CHARACTERISTICS:

- 45 (A) LENGTH: 729 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 50 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1405RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:589:

10	GATCTTTCAT ACTTTGGGT TGTGCTATA TAACTAAGAT TGGACAGAAC TGCAGGGCC	60
	ACAGAGGAG AGCTGCTGCA TTGCACATTA GGCAGGAACA GCGAATGTCT ACAAAATGCAC	120
15	ACTACACACT ACGGCTCTCA GCGATCCCA ATCTCAGATG CGCACAGCAA GGGACCCAGT	180
	TCTTTGCCCA TGCCCTGTG CTGCGAGGG GCGGCAGATG GGCTGCTAAC CATTAAATGG	240
20	AGCGCTGTGG GCTGCGCTGT GGGCCCCAG CCGTGATAC CTCACCTCAT GCACCAAGTG	300
	GCGGTGACA AGCAGCTCA TATCATGCCA GGCTGCTAG CGCTGGACA GAGCTGGCCC	360
25	CAGGTCACGG CGATTATGGG CGAGTAGCG ATGCTGAAGA AGTCGATAAT CCAGTGGCTG	420
	AACGGCGAGT TGAAGACGA GGAATACAAC AGCATCTACC AACATTTGAG TCAACTGCTG	480
30	GCGTCCCTCC CACCGCCCGT CGAGCATCT GCAGGCGAGC CCGAGCTGG ACTGCGCTCG	540
	ATATCTCAA TTATGCCGG AACAGAGCC CAGGAAGTCC AACGTACCTT CATCATAGCA	600
35	TCTCCGAGT CACAGCAGG CCAGCGTAC ATCTGCGCG CGTTAAGCTC GACAATGTCT	660
	ACGCACCGC TTTCACCGG CATGTGGTA GCGAAACGA ACTACTCGT GAGCACCAG	720
40	AAGAATGTT	729

(2) INFORMATION FOR SEQ ID NO:590:

45	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 715 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
50	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

55	(vi) ORIGINAL SOURCE:
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(A) ORGANISM: PAG1405UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:590:

10 GATCCAAATA ACACCACGGT TTTCATGGGC GGGTGTCTTT CGCTCGTGAC TGAGGATGAG 60  
 CTACGGGCCTT ACTTCCAGGC ATTGGGACAG ATAGTCTACG TGAAATCCC GGTGGGCAA 120  
 15 GGATCGCGCT TTGTCCAGTA CGTGGATGCG AGTTCGGCAG AGAAGCGGAT CCCCAAGATG 180  
 CAAGGATTTC CAATTGGTAA TTGGAGGGTG CGGCTCTCAT GGGGCAGGAG CGCAAAGCAA 240  
 20 ACAGCGGCTA TGCAGCAGGC GTTTGCCATA GCACTACAGC AGCAGCAGCA GCAGCAGCAG 300  
 CAGCAGCAGC AAGCCCGCCC GCAGCATTC CAGCAACATC AGTATCAGCA TCAACAGCAT 360  
 25 CAACAGCAGC CTCAACATGT CATTTCTGCA CAGCGGTTC TGCAGCAGCA ATTGCAACTA 420  
 CAATTTCCTT ATCAGCATCA ACGTCCCATG CGCAGGCTT ACGGTTCAC ATTGGACTCG 480  
 30 TTGAGCGGCA CGGTTTCGAA ACATGTTCGA ATGCAGGTT TTCTTTCCGG TAATATGGGC 540  
 TTCCAACCTT CTACGGCAAT TGATAGCTCT CCAGCAACGA CTTTGCTTCC CAACCTTTCT 600  
 35 TCGTTGGACT ACTCTGGGTT TCCACCTTCC ACGTCAGGT TCACTTTTCA CCCACGAAT 660  
 CTTTAGGCAC AGCTTTCACA ACATGGCCTA GATTCTCAAC AATGGCAGCG TGTCC 715

40

(2) INFORMATION FOR SEQ ID NO:591:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 699 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1406RP

## (xl) SEQUENCE DESCRIPTION: SEQ ID NO:591:

5  
 GATCTCCTTC CAGTGAAGCT GATGCACAAC TGCGGACCTC ACGCCCGGTG CCTCAAGTGA 60  
 10  
 CCACAGTGGC CATTTTCTCA GTTAGCGCTC GTTTAGCTTA GGTATACGAG GGATGGCACC 120  
 ACTTAGGCGC TGCTGGGAA CCAGATACGA TGAAGCGCC CAAATTGAT AGAATGCTGC 180  
 15  
 CTGGCTGAGC CGCCGTCATA GGGAAACGAC CAAAGGTTC GTCTGCCCA TCGTATGTAT 240  
 GTGTCGTGT ACGAGGACCG AAAAGTTGAC TTTTAACGAA GTAGATTTT TTATTAGATA 300  
 20  
 TTTAAGCAG TATGCGTAA CGAGCAGCTT GCAAGCGTA TACCAAGGCT CTGTGCGCTT 360  
 ATCAATTAGCA GGGGACATG TCAGAATCCT TGCTACAGAC AGTGGTGGG TAGTGGAGT 420  
 25  
 TGGTCTGCA CCACTTCATG GGGTTGTGT GGACCGAGCA GCTGTCCATA GTAATAGTGG 480  
 CACCATTCAT AACTCGCTG GTGTGGCAGA CGTTATATT ATTCAAGAG GATAGAGTAC 540  
 30  
 CGCTAGTGC GTTCATGGTA CCTGGGTGG GTTCGGGCT CCGTATGGG ACGGCTCGT 600  
 ACGAGTTTTT TGGCAAGTC ACGAGAAGTA TGGGATGTG TTTGGGTICA TGCTGCTGG 660  
 35  
 GCGTGTGATG ACGGTGTATC TGGGACGAA GGGCCAGA 699

## (2) INFORMATION FOR SEQ ID NO:592:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 709 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 45 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: DNA (genomic)  
 50 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1406UP

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:592:

5 GATTTTCATT AGAAGCGGCG GATTAGTCAA AAAGTGCCTG AATGTTCCAT CCACTAGGCC 60  
 ATCTGCCCTC ACCCAGCGAT TGCAAATGCA GACAAGGTTT ATTAGAATTA TACCGATTGC 120  
 10 CCAAACGTGG CCGCAGCAG TAGGAGCTGG GAGCTCAGCA CCGAAGGATC CCGCTCGGG 180  
 TGCCATGTAG TAAGACGAGC CTACGCAGAC ATTGGGGGCG AGCTCCGGCA CCGGTGTGGC 240  
 15 CAGCCCGAAA TGCCATACAT GTACGTGTGA CCATTGTGTC AGAAGAATGT TCTCCGGCTT 300  
 TAGGTCCCAA TGATAGAGCG CCGAGTGGTG GCAGTAGAAA ATAACTGGC ACAGCTGCAG 360  
 20 GAAGACCTTC TTAATCAGTA GGCATCCTT AGCAAAGACT TGCTGTTGA CAATGGCTGA 420  
 GAAAGGTGG CAGGTGATGT AATCCATAAC AATAAATGTT GCCAGGCTTG ACTCCATCAC 480  
 25 CTGATGTATG GTAACCACAT GTTGTTGGGT GTGCACAGTC AGGTGCATCA GCAGCTCCTT 540  
 ATAATGTGGC GGTGGGGCCA GCTGCTCTTG GGATAATGTC CGGATGGATT CCAGGTCCAC 600  
 30 AGATGGTAGA TACAGCGGT TCTGGAAGA TTGAAGAAT GGTACAGCTG CGTGGGAAA 660  
 ATTGTGGACC GGCCTGAGCG CTGCTCTGGG CTGCCGCTGT GCTGCTTCA 709

## (2) INFORMATION FOR SEQ ID NO:593:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 707 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1407RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:593:

GATCAACCAG ATAACTATCT TAAAGAACAA CCGAAAATG CGCAAAGCAC ACCACGGGTC 60  
 5 CTTGGTGAT AGACTGATAG AGATACAGAA AGTAACTTCT GTGTCAAGCG AACCGGAGCT 120  
 CGGGTTTITA CACCTTGGCA ACAGCTGCCC CCATGCCATA GCACTCTTTG AGTTCTCTTA 180  
 10 GTTGCTTTCC ACTAAACACC GCTCCGATGT TTCACAGAAC AGGTTTAATA TGGCAACCA 240  
 AAGAGGAGGT TAACTCAGA GAATCACAGT GTGAAACAC CGCTATTCA ATGAGGCATT 300  
 15 CCCCCAAGTC GGTTCCTTTG GTTGGATGT CCATTGGCTA GTAATCCACC AAATCTCCG 360  
 CTGCTCACC ATGGGATCC TAGATGCCA GGATGAGACT GTTCAGGTA GGCAGGTGTT 420  
 20 GTATGCGCG CCAGAGGGAA ACCCAATGAC TTTCATAGA ACAAACCCG CATCACCAT 480  
 GTCTTGGCT GTATAGAGAC TAAGTATCT GACGATCCCT TAGGACTCT CTCACCGCT 540  
 25 CGAGAGGCC ATTGAAGTC TTACGAAGTG CACAAACCTA CTCGAAGTCT GTTCCAGAC 600  
 TTCTTCTGT TTGCTTCAA CTGCTTCCG ATGAAGTACC CCCCAGGCTA TTTTCTTAC 660  
 30 CCGCTGGTG TTGTCTATA TACCGGTTG TATTTTTTGA TAAAAA 707

## (2) INFORMATION FOR SEQ ID NO:594:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 571 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1407UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:594:

55 GATGTGAA TTTGGTATA GGGCGAAAG ACTAATGAA CCATCTAGTA GCTGGTTCT 60

120 GCGAAGTTT CCTCAGGAT AGCAGAAGCT CGTATCAGTT TTATGAGGTA AAGCGAATGA  
 180 TTAGAGGTAC CGGGGTGAA ATGACCTTGA CCTATCTCA AACTTTAAAT ATGTAAGAAG  
 240 TCCTGTGTGC TTAATGAAC GTGGACATAT GAATGAAGAG CTTTTAGTGG GCCATTTTGG  
 300 GTAAGCAGAA CTGGCGATGC CGGATGAACC GAACTGGAG TTAAGGTGCC AGAATACAG  
 360 CTCATCAGAC ACCACAAAAG GTGTTAGTTC ATCTAGACAG CCGGACGGTG GTCATGGAAG  
 420 TCGGAATCCG CTAAGGAGTG TGTAACAACT CACGGGCGA ATGAACCTACC CCTGAAAATG  
 480 GATGGCGCTC AAGCGTGTTA CCTATACTCC ACCGTCAGGG CAAATATGAC GCGCTGACGA  
 540 GTAGGCAGGC GTGGAGGTCA GTGACAAGCC TTAGGCTGTA AAGCTGGGTC GAACGGGCTC  
 571 TAGTGCAGAT CTTGGTGGTA GTAGCAAATA T

(2) INFORMATION FOR SEQ ID NO:595:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 658 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1408RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:595:

60 GATCCCGCTT ACCAAGCAAT TACAGGAGAC AGAAAAGAAG GATAATAATT TACCACAGAA  
 120 CTCCAAGCCT GACAGAGCAG CGATTTCAT TCTGAGTCAC ATGACAGCAG ACTCTCTTTG  
 180 CTTTGAGCT TCAATAAGCA CCAATATGAA TATGAATAGT TTTAGATGCT TTGTATAATT  
 240 ACCACTATTA ACTTTATCTT GATTAAATATT TATTATTTTG TTATTTTATT ATTTTATPAT

TTTATTATT TATTATTTA TTATTTTATT ATTATTAT TTTATTATT ATTTATTAT 300  
 5 TTTATTTTATT ATTATTTTA TTATTTTATT TATTATTAT TTATTATTA TTTATTATT 360  
 TGTGTGTIG TTTATTATT TTTATTAT TACCTTTTA TTTATGTA TTTATTTTA 420  
 10 TTTATTTT ACTTAGTATA TAATATTATA TTATATCATA GTATAGTAT ATTATGTTGA 480  
 CTTTATTCAT TATATAGATT GTATTTTGIG AACATAATAT ATATGCTATT TCTATTCTA 540  
 15 TTTATTTTA TTTATTTTA TTTATTTTA TTTATTTTA TTTATTTTA TTTATTTTA 600  
 TTTATTTTA TTTATTTTA TTTATTTTA TTTATTTTA TTTATTTTA TTTCACT 658

20 (2) INFORMATION FOR SEQ ID NO:596:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 722 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

30 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

35 (A) ORGANISM: PAG1408UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:596:

40 GATCCGCCCT CCATCGAAGA GGGTACTGTT TGATTATGTT GATTTCCTGG TGIGGGTGG 60  
 ACATTCAAGT GCATAGTTGG AGGTTACCGA TAACCTAGAT TTTCTTATAA ACGGTTACCC 120  
 45 TACGTCTTGG CGGTTGGGG ATATACTGAT TAACAGTTGG AGAGCCTTGG CGGATACTG 180  
 TGAATGCCCT CTCTTCAACA TTATTGAAAT ATGCAAGGT TATTTAAATT AAGTAACACA 240  
 50 CTGTGCTTA TATATTCAAT TGTTCGAAGC GCGCCATCCA ACATGGCGAT TCTCATCTAG 300  
 TTGAGAACT TCGGTCTATT CTATTTCTGT GTACCGCAAC GGTATTAGGA GAGACTTGA 360  
 55



GTTTTGGAA CTTCAAAGTC AATACTTCAT CATCGTAAGT AGCAGTTACT TGGCCTAAAC 420  
 CAGTGGCCAC CTTTGTAGGG AGCCTGATTG TTGCGCGAAA CTCGCGGTTT GTGGGTTCCTC 480  
 CAGTAGTCCA CGGTCGTGTA TTCTCATCCG TATTAATGGC TGGCAGACA ATAGAAAGAA 540  
 CTGCATCATT CATGTCTCGA TGCAGGGCAA TATCTATGTG GTCTTGAGAC ATTACGCCAG 600  
 GAATCTGAT GTGGATCTCA TAGGCGTCCG AACGCTCCAA AATTAATAAT GAAGGAAGAA 660  
 CGTCAGAATT TGGCGCGAG AGCTGTATT CTGAAGTAGC TGCCCACTC TCAGCTTTGT 720  
 GT 722

## (2) INFORMATION FOR SEQ ID NO:597:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1409RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:597:

GATCCTGGCT ATCTACCTGC TGCTGGGCGC GCTGCACGCC ATACTAGGGG GCACATTGAG 60  
 CGGATTAAATG TATGTGAAT ATGCGCGAGT AGAAAACCCA CGTTCATGTG ACAACAAGGC 120  
 CACCGGACTA ACCAATTTC AGAACCGCCG CTATTTACAG GGCTGCCCTG ATCGCGATGA 180  
 GTACTTGAT TCGCTTGCA TCGCAGTCG TACAGGCCCT GTACTGCTA TCGCAGCAT 240  
 TTGTGGCACA ATCCAAGCTG ATATAGGATA CAGACATCCA GCAAGACCT GGATGGATCG 300  
 GTTGTATCCC TCTGCTGCAT CAATACGCTA TCGCGGCGCG GCAGCTTATT GTCACTGAT 360

TCGCTATCTT GTGAGCACC CAGACATATG TTGCTGAGCC TCCCTCAGCT ATATAAGCGT 420  
 5 CGAAGAAGGG CGCGAGTGA ATACATGTCT CTGGGCTGT GTGCCTGTG CAGTCTCCG 480  
 CGATGTGTC AACTTCATA AACGTTCTT TGGCAACTAT CGGTACAGAG CTTGCTTTT 540  
 10 TGGTGAATC CGGGTCATT ACCGGCAGC AGTCAGAGCA GATTGAATCT AATCTTCAA 600  
 ACCCTAACGA AGCCTCCGT GGGCTCCCG CAAATAACG AGGCTGTG GAGTATGTG 660  
 15 AGGCACTTTA TGGTTTCAG GCGCAACAGC CTGGTGAAC TAGACTTCAA 710

## (2) INFORMATION FOR SEQ ID NO:598:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1409UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:598:

GATCGGGAC CAGAAAACCA CAAACTGGT CCTGAGGCG GGGTGGCG TATACCTGC 60  
 40 TACTGTCTCT TCTGTGTA GGTGGGCT AGGCTCTGC GTGGTAAC GCTGGCATGT 120  
 GGCTCATCAC CAGAAATAT GATGTCTCA CCAAGTGC AATATGTCC TGTCCCTGG 180  
 45 TGGTCTGGG CTACGGTGT GGACAGCTG TTGGGCGC TCTGTAGAC CTGTAGGCG 240  
 GGCGATAAC GTACTTACA TCTTATTC TTTAGTGT ATTTAATATT CCATGTGGG 300  
 50 TGGCTCCAA CATCAGAGC CTTTGGTTT GCAGTTTAT TTGGGGGTC CTGTGTGT 360  
 55 CTGGACTATG CCTAGTGGC GGCTCTCTG CCGATATGTT TCCAGCGAC CTGGTGGT 420

TGACCATGCC GTTCCTTCCA TTTCACCAT ATGGAGGTCC GGTATTTGGG CCACTTATAA 480  
 ACGGATTCAT CGCTGTCCGC ACAGAGAAGC TTGAOCTTAT CTTTTGGGTC AACATGGCGT 540  
 TAGCCGGAGC TGTTTGGCTG TTAGTGGCAC TGGTGCCCGA AACATATGGG CCAATTATTT 600  
 TGAAACGGCG CCAGAGAAG CTGAGGAAAC TAACAGCCAA CCAGAATATA ATGACAGAAC 660  
 AGGAAGCACA GGGACTCTCC CTGTGGGCAT GGTGCAGACT TGTCTACTGA GACCG 715

## (2) INFORMATION FOR SEQ ID NO:599:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1410RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:599:

GATCAATTGG TCACATTTGG CGTATGCAAT TTCTACCATC TCCTCTTTGG TAGOCTTTAA 60  
 TTCCACTCCT GGTGTAACAT CACTAATGCC AATAGAAAAG CCTCTATTTC CCAGATAGCG 120  
 CGCACAAAGC TTTCGCATCC TATTATAGC CTGGGTGCT TCTGTGGCC CGAAATCTCT 180  
 CAGAAATAGTA TAGAATACGG AATGTTTCTT ACCATCACCA AGCAGAGACT TATCATGAC 240  
 ACCAGACAGA ATATTAGAGC CTCTGATAAC TACATAACCA TCATTAGCAG ACATCTCATT 300  
 TGGATAGGCC TTATTCTTAG GCGCAATATA AACCTTATTC TTGCAATCA AATTAAATAAT 360  
 AACGGGAGAT TTCTGTGTCG GTTTTATCAA TAGAGAGAAG AGCTGTTTTC CAGTCCATAA 420  
 GTAGTGTGGT CCATAATTG CAGGCGGCGG TATGTCAAAC TGCAGGTTCG CGTCAGACAT 480

CATAGAAAGC ATTTGGACAA AAGTTGCGCG GTUGAAGAAG GAGTCTTTGT GAGAAATCAA 540  
 5 ATATGATCCA GTGATGAAAT CCTGGGTAGC TOCAATGATC GGTTCACCGG ATTTGCGAGT 600  
 CAATAAATIG TTTTIGACAC CCATAAGGTT GATTGCTTCC GGGCGAGCCT CTTCGGTTTG 660  
 10 AGGAACATGC AAGTTCATTT CGTCACCATC AAAATCGCGG TTGTAGGGG 709

(2) INFORMATION FOR SEQ ID NO:600:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1410UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:600:

GATCTGAGCC CTAGCATCTT CGGTGGAAG CGGGAAGTCT ATTTTCTTAT CCAAACGACC 50  
 GGAACCCAGA AGCGCTGGAT CAAGGACATC GACTCTATTG GTAGCAGCCA AGACTTTTAC 120  
 40 CCTATCGTCA GAACCAAAGC CATCTAGTTG GTTAGCAAC TCAAGCATGG TTCTCTGCAC 180  
 CTCCTATCA CCGACTTCT CCGAGTCAA ACGCTTAGTT CCAATAGCAT CCAACTCACC 240  
 45 GATGAAGATA ATGGTAGGTG CCTTTTCTTT CGCCAAGGCA AAGCGTCCG GGACCAGCTT 300  
 CGCACCTTCA CCTATGAACA TCTGGACCAA CTGCGGAGCG GCCAGCTTCA AAAAAGTCCG 360  
 50 ATTGGTCTGA CCGGCACAGG CTCTTCCAG AAGGTCTTG CCGTACCGG GTGGACCATA 420  
 CATCAGAGCA CCTTTCGGTG CCTAATACC CATATCCTTG AACTGTCTG CCTGCTTCAT 480  
 55 GGGTAACAG ATTGCTTGA CTAGTTCTC GATCTGCTTG TCTAGCCAC CAACGTGGA 540

GTATGTTTCC GTAGGCTTGT CATCCACTTC CATAGCTTTC ACTCTAGAGT CAAACTCCGA 600  
 5 AGGAAGGGTA TCCAAGATCA GGTACGAGTC CTGTGTTTACA CCAACCAGGT CGTTGGGCTT 660  
 CAACTGCTTA AGGGTCCACT AGCCCCAACA TGGGGAGAAA AACGGTTTGT CGGACGAAG 720  
 10 TTTCACA 727

## (2) INFORMATION FOR SEQ ID NO:601:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1411RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:601:

GATCAAATGC CCTTCCCTTT CAACAATTTT ACGTACTTTT TCACCTCTCT TTCAAAGTTC 60  
 35 TTTCATCTTT TCATCACTG TACTGTGTGG CTATGGGTCT CTGGCCAATA TTAGCTTTTA 120  
 GATGGAATTT ACCAACCCTT TAGAGCTGCA TTCCCAACA ACTGACTCTG TCGAAGAAC 180  
 40 CTTAGATGGC ACTAGCACCC CGGCAGACG GGATTTCTAC CCTCTATGAC GTCTGTTC 240  
 AAGGAACATA GACAGGACT AGCAACCAAG GTACTTTCTT CAAATTACAA CTGGACGCC 300  
 45 GAAGGGCCA GATTTCAAAT TTAGCTTTT GCGCTTCAC TCOCCTTAC TAAGGCAATC 360  
 CCGTTGGIT TCTTTTCTC CGCTATTGA TATGCTTAAG TTCAGCGGT AATCTACCT 420  
 50 GATTGAGGT CAACTTTTG GAATCTATT CGCTGGAAG GCTTGTGTTG TCGTAGTTC 480  
 TTCAAGGCC AGCTCCACTC CACGATCTGG TCGAACTTA ATAGCAGTG TAGAACTAG 540  
 55

CTCAGACCCG AGTCGGGCGA AGTTCGGCCC ATGGCCAGCA TTTTCAAGTT AACCTGTCT 600  
 5 TACGACCGAG TATCACTCAT TACCAAACCC GAGGGTTTGA GAAGGAAATG ACGCTCAAAC 660  
 AGGCATGCCC CTGGAATACC AGAGGACCGA ATGTGCGTTC AAAGATTGGA TGATTACGA 720

(2) INFORMATION FOR SEQ ID NO:602:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 717 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1411UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:602:

GATCGTCAGA TACCTTAGTC TCTATACAGC GCAAGACATG GGTGATGGCG GGTTTGTCT 60  
 35 ATGCAAAGTC ATTGGGTTTC CCTCTGGGCG GGCATACAAC ACCTGCTTAA CCTGAACAGT 120  
 CTCATCTTGG GCATCTAGCG ATCCCATGGG TGAGCAGCGG AGGATTGTGT GGATTACTAG 180  
 40 CCAATGBCAA TCCAAACCAA AGAAACCGAC TTGGGGGAAT GCTTCATTGA ATAGCCCGTG 240  
 TTTCGACACT GTGATCTCTT GAGTGTAAAC TCCTCTTTGG TTGCCGATAT TAAACCTGTT 300  
 45 CTGTGAAACA TGGAGCGGT GTTGTAGTGA AAGCAACTAG AGGAACTCAA AGAGTGCTAT 360  
 GGCATGGGGG CAGCTGTTCG GAAGGTGTAA AAACCGAGC TCCGGTTGCG TTGACACAGA 420  
 50 AGTTACTTTC TGTATCTCTA TCAGTCTATC ACCGAAGGAC CGTGGTGTGC TTTCGGCATT 480  
 TTGGGGTTGT TCTTTAAGAT AGTTATCTGG TTGATCTGCG CAGTACTCAT ATGCTTGTCT 540  
 55 CAAAGATTAA GCCATGCATG TCTAAGTATA AGCAATTTAT ACGTGAAC TGCGAATGGC 600

TCATTAAATC AGTTATUGTT TATTTCATAG TTCTTTTACT ACATGGATAT CTGTGGTAAT 660

5 TCTAGAGCTA ATACATGCTT AAAATCTCAC CTTTGGGAG AGATGTATTA TAGAATA 717

(2) INFORMATION FOR SEQ ID NO:603:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1412RP

(vii) SEQUENCE DESCRIPTION: SEQ ID NO:603:

GATCTGGAAC CAGGATGACT GTCTGGCAGT TAACTGGGC GACCAGATTC GCTTCTTACA 60

CAACTTCTGC TCCGTGGCC ACGGTATTTC CATCGGGTCT GTGGGCACA AGAAGGGCA 120

CTCAGTCACC AACTTCTCG CACAGGACAA CCAGGTGTC GAGTCGGACA ACGGTCTAAG 180

AATCAAGACT TTGTTGGGCG CCATTGGCAA GGTGACACAC ATCAAGTICA TCAACAACAA 240

GGTCAAGAAC ATCGCAAGT TGGCTATGTT CATCGAGGC GACTACAAGG ACGGCACCAC 300

CACCGGCACC CCAACCGCG GCTGCCCAAT CACCAACTA GAGGTGAG GCAACACCGG 360

TAACACCGTC GCAAGGGCA GCAAGCTCAA GATTCTGTC AAGAATGGT CTAAGTGGAC 420

CTTGGCCGAC AACAACATTT TGGGCAAGAC CTGCCAGGC TGCTCTGGCG CACCTAACGG 480

CATCAAGTGC TAAGCGCCTT TTTTTTTTTT GGCTGGCCT CGAACTATT ACTATGAACA 540

TTGGGCTCCA CCGCACTAC AAAAGCATCG GGTCTATCC ATTATAACAT TAAATCTCA 600

GTGATATTA TATTTTACAT TGAATGCC TTAGGCTTT TTTATATTAT ATAACTTTA 660

GATTAAAAAA ACGAGGTACA AGCAGATCAA CGAAGCTTTT CGGCCAGCCA

710

(2) INFORMATION FOR SEQ ID NO:604:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1412UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:604:

GATCGAACGA GATAAACAGA GGTATTTGGTT GTTATCACAA ACATATAATC CTGGGGATAC	60
AACGCTGTCA AACTCTGGGC CTTCTGCTTT GTGTCTAGAT TCTTTTTCGA GGCTTGAGAA	120
TAACCTGTAC AATTTTTTGA TTGTGTTAGT AAGAGAAGCA TCAACGATAT CATCGACAA	180
AGTTGGGTTT CTTTCCCTG CAAGGGGAA TGCGCTTCA TTACTTCCG AATCTTCTC	240
ATGAGTCGAT GGTCTGGCG TTGAAGCTTG TAGTGICAAA GGTCTATTG TTGGAGAAGG	300
TTCTATCTCT ATTTTTTGTG CCGAGAAAG ATCATTTGAC ATCCAATATC TTGTAACTTC	360
CCTGGGATGT AATCTTTGAA TAGCGGGGTT TCGGTACAAG CTGCTACCTG CCAGATTATT	420
ATTTAACGAT TCTTCTGGTC CGTGAAGGTG ACGTATAAGG TGGACCTAT TGGGTTTCTT	480
TTCCAACATA GGTGTTCAT CAAATGAGAG GTAAAATGGT TCTGCTGGG AACGGACGA	540
AGGCTCCTTT ACTTTAAGTC TTAACAAGG GTCAACATAT TCTTTTGA TCGTTCTAGA	600
AGTGGTTACA AAATCCATAT TCGTCTTAG ATCTGACTCC TGAACGCTT TGTCTAGTTT	660
CTCATCCCC AGTGGTAAAT CTGAACGAG GACAAAGTAC ATGCAACTGT CCTCATCAT	720



GTAAGTCA

728

5

(2) INFORMATION FOR SEQ ID NO:605:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 732 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20

(A) ORGANISM: PAG1413RP

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:605:

GATCTGCTGG GAGTGACTCA GGAAGCTTTG TCAGTACCTG GAATGAAAAA ACAGTCTCTG 60

30

ACAGAGCGGG GAAGCTGGGC CTGATGGTGG TTACAGGGGA CCAGTTCAAA GAATATGAAC 120

AATTGAAGAC TGTGAGCCCC AAGGATCAAC TTGCTCAQCA GCGGAAGGAG CTAGATATGG 180

35

TGCTAATIGA TGTGCTGAA CTATACGAAT TAAGAAGCAA AGTTTCOGAT GCACTGTCTG 240

GCGATTGAA CTCTGACTTT GTCTTGAGCA AGGAGATCAT TCTTGAGAAT GCTCATAGTT 300

40

ATGGTTTAAAC GGTCTTTCAA ACGGAAGAGT ATCTTCAATT ACAGAGTAGT TTGGAGAGAG 360

AACAGGTAAC GTCTACAAC ATTGCCGAGA AAGCAACTAC AATTGGCTAC GTTGCCTTC 420

45

CAAGAACCGA GTACGATGAA CTGTAGCTT CGCAAGCTTC TACGAAGAA CAGAATTTTG 480

AGGTATAGCC GCGGAAAAT GCGAAGGTCA TAGTGGATAA ATCTGAGTAT CACGATTTGA 540

50

AGATCAAAGC TATCCAGTG ATTTCAACAT TGCTCAAAT GAGCAAAGAG CAGATGGTTG 600

AAAAGGCCAA GGAAGTTGGA ATGGTAGCTT TGCTCATIGA CGAGTAIGAG AAGTTAAAGA 660

55

GCGCTATTTC CGATAACGCT TTGAATGCAA CAGCGAAGGG ACCGTGGAAA GGTGTGTTCTC 720

CTAAAGGAGA GT

732

5 (2) INFORMATION FOR SEQ ID NO:606:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 721 base pairs

10 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

20 (A) ORGANISM: PAG1413UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:606:

GATCCAGTTT TAGGTCCACT TCAAACITGA TTTTGGGGTA CTCCCCGCAC ACCACCGTCA	60
AGTCATGGCC ATAGATGGAC TCAAGCATT CCAGCTCTG CTTTGTCTC TCCTGATAGT	120
CCATACCTAT CCGCTCGACC AACTATGAGC CCACGGGCAG CTTAGGGCTA GACCGTTACA	180
GCTGCAGGTG ACCGTCCGGG GGAGGATGG CTATGGCTGG CGAAATTTTT CGCCTATACC	240
ACCACTTATG TTACCCGGTC TATAGTGCTG CTCTCGACC TCACTGATGG TGCTGTCCCG	300
CGGGGACTGC TCCCTGTGTC GGCCAAATCC CCACCGCTCT GAACGCTCGT TCCATCTGG	360
TCACGGGTTG ACCGAACGGG AATTGCGGC GCGGAGAAAT CTTGGCGAAC CATGCTGCAC	420
GTAGCCTTAC TGCCAAAATT AAGCGTCAA ATGGCTGGCT ATCTTTCCAC GCACGCCCAT	480
AGTCACCTGA AGCTGGCTGG AACAGTGGTC ACCAGCTTT CTGACGCATA CCAGGAACAG	540
GTGGCCGAGC CCGAGGCCAA CCGTGGGTGA TTAGTTCAGC GACTTTTGGT GGATTACGTA	600
AATCTGGGTG CATGCTGGC ACGACAGGC GCATGGCACC CCAAGACAAA CGTGCCACAC	660
CCATTCAATA TTAGAGGACT TTCTGCACA CCTAATCAT CCGTTGGGTT GTGAGATACG	720

C

721

## (2) INFORMATION FOR SEQ ID NO:607:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 729 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1414RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:607:

GATCCGTAAT CGAGTTTAGC TTCGGTGTGG CATCATGAC AGGTGGAAAT GCTGGCTTGT 60  
CGGCGTCTG AAAACGAGTC AGATGTGCAG AGAGGCTGAA GTCCAACATT TTAACCAACG 120  
CTGAAGACCG GGAATAGTAG GGCAAGTAG TTCGCGAAC TTCAGTTTIG TTTTCTTTTA 180  
ATTTAATGGA CTACACCAA AAAAGCTCAA CAACAGTCCC AATTAGTTCT GCTAGAAGAT 240  
GCAACACGT TAGTGATCAG TAAGTATGTG TACTGGTGTG CTGGTCTGC ACTGCAAAGT 300  
TCGGTTCACA ACTAGCTGTG AACCATGGTT TGAAAAAAA TAATGATAAT GATTCGCCCC 360  
AGGATCGAAC TGGGGACGTT CTGCGTGTTA AGCAGATGCC ATAACCGACT AGACCAACGA 420  
ACCACTATA AGCCCTTAAT TATACTCAGA TACTAGTGAC CATTTTCTAG TCACATGATG 480  
CTAGTTTCTT GAATAAAGA TGCAAGTGAT TACCAAATCT GTATTACTA GGTAATAATG 540  
CTTGGTGAAT AAGTACGTAG ATATTATATA TGTATACATA TGCAATTTAG ATGCAATAAA 600  
AGCTCTATTA TGTATGCGCG CGGAGCTTTA AGCAGTGTG TTTTCGATT GTTTTGTGGA 660  
TGCAATGGTC TTTGCATAAA AGCCTGACTT TCATCTTTT CGTGGCTTGA TGTTAACTTC 720

CAACTCTGA

729

## (2) INFORMATION FOR SEQ ID NO:608:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 639 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1414UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:608:

GATCTGGCCC CGCGGGGCGA CCGCGGCCAG GGGCCAAAA GGAGAGGCCC CGCGGTGGCG 60  
 CGCGCCACTG CGCGGGTTC ACAAGACATA TATGTGGTA TATAAGACCG CGCGTGGCG 120  
 GTGGCTGGCG TGCAGAACCC GCGGTGGCG CGCGGCCAGA GATTTCTAAT ACTCTGGGT 180  
 TCTTTTTC AGCGCTGGT ATATAAGTTC GGGCTGTGC GCGGGCGTC GCGCGGTTC 240  
 GCCAGGGAGA TAGGGAGCA TTCCGCAGCA GCGTCTGTA GCGGACCAG TAGACAGGG 300  
 ACCAGGACA CAAAGCAGGC GACGGCGGT GCGGGGATC AGCAGGCAC AGGAGCCAG 360  
 GGTATAAGA GCGCGGTAC GAGCGGCTG GTAGGTATAG GGCAGATGG AGGTGGGTG 420  
 TAACGGGATT TTTCTGCACC AGAACGACTC TCGGAGACG ATCAAGCTGG AGATGTGGC 480  
 TGTGGGGGT TCGGGAGCG CAGGCAGCG CATCGGATG GGCAGGCGG ACGACAGCT 540  
 GACGAAGTC ATCAGCGACC TGAACATCTT CGATCTGCTG CACAACAACC CGCGTGGAG 600  
 TTCCGACGAC AACAAGGAGG GTGGGCGCG GCGGCTGC 639

## (2) INFORMATION FOR SEQ ID NO:609:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1415RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:609:

GATCGTGGTT CTGTTATCGA AACGTTGGTT GCTAGAACAT TGGCCAGGT TGAAAGTAGC 60  
 CAGAGCATGA TAGGAATTCT GGGATTATCG GCTACATAC CTAACATCTT CGAGTTCGA 120  
 GACTTTTGG GGGTTAACAG ACATGTGGGA ATGTTTATT TTGATCAATC GTTCGTCCA 180  
 AAAOCTTAG AACAGCAGT GCTTGGTTGC AGAGCAAGG CGGCAGCA ACAAGGAAG 240  
 GAAATATTG ATAAGTTTC ATATGAAAG CTTTATGAAC ATGTCTTAA TGCTCCAG 300  
 GTCATGTTT TTGTGACTC AAGGAAGGAT ACTGTGGCA CTGGGGAA TTACATTCT 360  
 TTGCCCCAAG CCAACCAACA GTCCGATGTT TTCTAAGTA GCGATCAAAG CGTTACCAAG 420  
 TTTCCCGAG ACATCTCAA ACATAAGGAT AGAGATATGA AGGAGCTCTT CCAACATGG 480  
 TTGTTATAC ATCATGCTGG TATGTCTCGA TCTGATAGAA ATCTAACAGA AAAGATGTT 540  
 AAAGAGGGAG CTATTAATGT GCTTATCTGT ACAGGAGGC TGGCTGGGG TGTGAACCTA 600  
 CCGCTGATG TTGTCTTGAT AAAGGAACT CAGATATMTG ACTCTAAAA AGGTGGTTTT 660  
 ATAGATTGG GGATTCTGAT GTGATACA 688

## (2) INFORMATION FOR SEQ ID NO:610:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1415UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:610:

20	GATCATCAGG AGTTCGTAC CTTGSAACC AATTGGGAAC CACAATTCCT TCTGAGCCTT	60
	TGGAAATTTC TCACACAAA CTCTGAAACC GTCCTTGTA CTTTCATTAT GGCGGAATGC	120
25	TACAAGTGTC AACTTATCAG GGTGGATTG GTCTTAAAA TGTACCTTAT CCAGACAGG	180
	AAGCATCGAG GCTTCACGTA TAACTTATC TTTCGCGCT CCTTGAATGT TATGCACGG	240
30	GCACACTGAG CACAAGGCAG CATAGCCCAT CCGACCTAGC TTCTCCAAG TCAGCATCTC	300
	GCCACTATAC TCATAGGGAA AGCCATCATC CCCGAATAAT TCGGGGTCTA AGCGTTGTAG	360
35	CGTAATTCCA GGCAAAGCAG TCACCGGGTT GTCTCATAC CATGTTCCCT GCTTAATCCA	420
	CTGCATGGCT TTAATCATAG TCATAACTGT CCTGAGGTAC CCAGATTGCG TTGCAATATC	480
40	GATATAGGCC TGTAGAATAC GTAGCGGCTG GTGAGAACT GAGATGTTAT CTGGTAATA	540
	ATCTGCAATT GCTAAGTCAG CTCTACTTAG GTAAGCTTGT AAAAGCAAAA AGGCTTTGAC	600
45	ATGGGGGTCC CATATTGGTA ACTCTTGTTC TCTGTAAAA GTACTTTCAA CGGAATATCT	660
	AAGAGTTTCT GACATTTCAA CATTCATGAT AGTCTGCCC CCC	703

(2) INFORMATION FOR SEQ ID NO:611:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1416RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:611:

20

GATCATCAAT ATTTCCTGGG TTGCTGCCGA CGATTGGAAG GGGGGGGTGG GTTCTTTGAA 60

GGATTTCAGG CGTATGAATG TTGCTCTCAC CAGAGCAAAG GCCAGTCTCT GGATCCTGGG 120

TCACCATAAA TCTTTATACA AGAACAAGCT ATGGATGCAT TTGATTTCAG ATGOGAAAGG 180

25

GGTGACTGC CTCCAAATGG CATGTCCGGG CTTCCTTGAT CCAGGGAACA GAGCCGCCCA 240

GGATGCTCTT CATAGGTTC AAAATCACCA TAATTATATC GAGAACCAG ATGATTATGG 300

30

GCTGAACCG GTGATGACTA AATCAAGAGG ACCCAATAGA TCATCCAGAA AACGCAACA 360

TATGGAAGAT AATCCAGATG ATAACACGA TCCCGTTGCT GAATTCAGA AGGAAAATCA 420

35

AAGAGAAAC AACACAGGCA CCGGTGGTTA CCGTGGGAT ACATCTAAC ACAGATTGGC 480

ACCTGCTAGG AACGATAGCA AGAAGGCCAA GAGTGCTCC AATGCGCGCG GTATTTCCGA 540

40

GGCTACTTCA GAGGATGGTG ATCGAGGTCA GAAAGGACAT GGAACCTAGA AGAAGTCTTC 600

CATATTGGG AATTTTATGC CCCAGTTGA TGACGGACC CCGCTGCCC ATGTGTACCA 660

45

CCCTAAGGAA CGCAAGCCCA AGAATGCTGC ATCCGCTTAA GCGGCTGCC TTGGGAAC 718

(2) INFORMATION FOR SEQ ID NO:612:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1416UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:612:

5	GATCTTGCCC GGCAAGACCA GGAAGTCGTT GTAGTCAAC CCGCCCCCGG TCITGGAGTC	60
15	CATCAACTGC TCCACGGGAC AGCCCGTCCT TCTCGGGTA CGTGGCCAGG TGCTOCAGTG	120
20	CGGTGGCTGC GTCTCTGTAA GTCAITGGGC TTGTTCGGC GTGCTATGAA GAGAAGGAGT	180
25	CAACACTAAA CCAAGCTCT CAAGTTGACC CATCATCAA GTAACATCC CGAACAGAGC	240
30	COGTAACC CAGCTGGGAT TTGGGGCATC TAGAAAACCT ATTATAGTG CAGCTCATCG	300
35	CTGCAAACTT TTCAGTAAA AGAAAGATG ATCCAGCGGG GCCAAAAG CAATGGGCT	360
40	GCGCGCAGC ATGGAGGCC TACCGCGGC CAGCACCAGG TAGGAGCTGT CAGGGGCTA	420
45	GAACGGGCGC AGCTAGAGC GGCTCTCGG GGGCGCGGC AGCGTCCGA CCGCGGCTC	480
50	GCAGCAGCAG CGGTGCCAGG CGACCAAAA GACCGACCAG CCAGCGCAGC AGTCTGTAGA	540
55	CGCGCGGAG CAGGCGAAG GCCAGGAATA CAGTCCAGAG CAGCGCGGAG AGCAGCAGGA	600
60	AGTTGAACAC GCGTCCATG CCGCGCGCG CACAAACGG AACAGCGCA GCGCGGCTC	660
65	GCAGAGCGGC TGCAGGAATG CGACGACGA CAGGAACGGC AGGATAGGAC TA	712

(2) INFORMATION FOR SEQ ID NO:613:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)



## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1417RP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:613:

10

GATCCCTTG GCGTCGTGT TGACCAGGTA GCGCGCTGT AGCCCGAAGA AGCCCGACAT 60

15

CGGCTCTGAC GCGGTGTGTA GCGACGGGC CATCATGGGC GCGCTACTGG AGATCAAGCG 120

20

CGGTACAGG GGCAGTCTT TGTGATTC GACCGCGGC GGTAGCGGG TGCCAGCAC 180

GAACGGATGT GTGCGTAGTG AGTCAGAAG CAGCGGTAG CTCTCTGGCG GATCTGCAG 240

GTCCGGTCC ATGCACACCA GGTACTGCC CTGGGCTCG TAGAAGCCCT TGAGCACCGC 300

25

ACTCGACAGC CCGCGCTGT CCGTCCGAC GATGATCCG ACGTTGTAG CCTGCTTGGC 360

CAGGGCTCC ACCTCTTCCA CAGACCGTC CTGGAGTTG TGTGACAA AGATCAGCTC 420

30

AGTCTCTTG GAGTCGGGT TACCGAGGC GCGAAACAG CCGGTGGCA GGGCTTGAT 480

GTGGGCTTT TGTGGTAGG CCGCACGAC CACAGATCT CGATGCTCAT GCGCTGTGA 540

35

TGGTCTTAA TGTAGTAGT AGCGAACGC GTAGCTGTT TCGAAATAA GTGAGGCTG 600

CGCGCTAAT GTGTGTCT TATGTTGCT TTTTGGTTC TGTCAAGGG TTACCGGCGC 660

40

ACCAGCTAG ACAGCGAGC CCGGGTGAG CAGCCACGA CCAAGAGCG CTGTA 715

## (2) INFORMATION FOR SEQ ID NO:614:

45

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

50

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

55

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1417UP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:614:

10 GATCTGCGTA GGTAGTAGAT GAATTGAGGG TATAGCGAAA AGTTTGGTGC CAAGCGGAAG 60  
 GAGCGGGGGT CGCCCTTGTT GTAGTCGGGG TACTTCTGGC AAAGCTTGAT CAAAGTTCTA 120  
 15 TUGATCCACC GGATGAGGTC AGCGCCATCA TCGGAATCTG CCTTATCGAC TGCAACACGC 180  
 GCCATTAGTA CAGCAGCGGC CTCCTGGTCA AAGGAAGCAG CGATTGCGGG GTTACCGAAT 240  
 20 GGCAACATCT GGTAGCAAC TGTAGTCACT CTGACACGGT TGGTACCAGA TGCATGCTGG 300  
 TATGCAGTAA TGAATTGGGT GTATGCCAAT TTTGGTCTGT CCCCATGAG GCTGGCAGTT 360  
 25 GCAGCGGTAT TTGCAATCTC GAAAAGATA GGTAAAGAGT GGTGAGGGCT CAAGGACGCC 420  
 ATTTTCCATG TAGAAGTGCC CCAATACCG ATTCTGAAT CGCTCAGTT CTGTGCATCA 480  
 30 ACGTTAACCG GCGAAGCATG GCCAATCAGT CCTGCAGCT TTAGATCTGC ACTGGTTTTA 540  
 ATGCACATGG AAGCATTGAA CGCATGGTT AGGTACCCCT CTCATCTTTA GAAAACAGTC 600  
 35 TGATGAAAGA TTGCTTGAAG ATGGCGGTGG AGAATCGGTC AGTCAACAAC AAAACACCAC 660  
 CAGTGGAGTC GGTCAACTTC TTCATCTCAG ACATACAACC TGGTGTAGC ATCCA 715

40

(2) INFORMATION FOR SEQ ID NO:615:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 728 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1418RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:615:

5	GATCCGGGAG ATTCATCGTG GACCCGGCAC AGGCAATTAC TATAACAACA TCCTGGCGTG	60
	TTAAAGGACC TAACTCAGGC TCAAGTATTT CAGGATGATA TCCTAGATGA AGAGCTGGC	120
10	CACAGCGTGG TTGGTTTACA ATATGCTCT CTTCGCCAAA ATTTAAACAT GTCTGTACTA	180
	CAGCGAGCTG GTCAAGCACA ACAGATTTTG TCCTGTATTT TTGGGGGTAA CTCAGAGTAA	240
15	GATCCGTCAC GAAAGATGTG CATAAGAAG TAGCAACGCT TTTAGGATTC ATCGAAAAGT	300
	TCCTGGCCAG CAGCAAAGAT CTGTGCAAAA CCTCCGACCC CTCTGTTTCC ACTGCTACAA	360
20	CAGGGATAGA GTCTGCCAAA CCATGTTTCT CCAGCCATA TACAATCCCA TTATATAACC	420
	CCCCGCCACC TAGGCTGCAG ACGATACCTT TCACGCTCTC CAATTGCACG CCTTGGAGAT	480
25	GCAGTGCTTC TACTACTTCA TCTACCATG TTGCATGCCC TTCCAGATG AGTGGTTTGT	540
	CGAATGGATG TGCATATATC GGAGCGACTT TTTCTAAATT CACATTCCCC ATCAACTCGG	600
30	AACGTAAGTA GTCATCGCTC TCTTTCAATA CACTTCCCAT TGATATCACA TCTGCCCCCG	660
	TTGACCGTAT CCGCTCTACC ATCCGCCGTC GAGTAGTTTC AGGCACTACC ACTGTGCAAG	720
35	GTATCCTA	728

(2) INFORMATION FOR SEQ ID NO:616:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 713 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1418UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:616:

5  
 GATCATCTGC GTGCGATACT GGCAAAAAAT GAGAGACAGC ATGATGAAAA TATAGTTAAT 60  
 10  
 AAGATATTGC ATGATATAAG CACAGGCGGG TTTCGTGAA GAGGAAAGGG TGCACTTGAT 120  
 CTGGAAATGA GTGAAATGA AGACCAAGAG TTACAACAGT TTAGACAGAA AAGACGAGAA 180  
 15  
 CTTTIGAAAC AAAAGATATT GGAAATGGT GATACTAGCA AGCTGTATC TAACCCCAAG 240  
 TCATAGGCT TTTTCAGAC GATGGTGAC GATGTTACTG AAGCATCATT TGGAAATACA 300  
 20  
 TTTGATGCCA ATATAGATGA AAAACAGAT CCATCTGCTG CAGGTGGAA AATTGTCATA 360  
 TCAGAACAAT TTGTAAAGGA AACCTGTCA TTCTTGTGA GCAAGGTGG CCACTCAGAA 420  
 25  
 ATCCCTGCAG AACTAAATC TATTTCATCC AGCAGGTG AAGGTGAGA AATTCAAGAC 480  
 CTTCATACA TTGAAGCAA ATAGTAACAT TAAACATTG AAAGGAATCT AGAACTTCT 540  
 30  
 GCTCAGATGG CTGAAGTCA GATGGAGAT GAAGGTGATT ACGGCTTTTC TTGAGATAGA 600  
 TTGGCTCTGC GGCAAAAAGT TTAATAATGG AACTAAGTC GACGATAAGT TTAAAAGTGG 660  
 35  
 CACCAAGGCA GTGGAATCT TAAAGGCAAT AAGACAATTG GCGTCAAAA GCC 713

## (2) INFORMATION FOR SEQ ID NO:617:

40  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 723 base pairs  
 (B) TYPE: nucleic acid  
 45  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1419RP

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:617:

5	GATCTGGGGA GTCTCATOGA AACGTATTCG ATGAGGCTTG GTGGTGGCAG GCGGCTCCTC	60
	GCTCGATTGG CGAGCTGGTG ATGACTTCGC ACTTCTCCGG GCGGAAAAT TCGTCTCAGA	120
10	CAGTGGCGGT TGGCGTGA A GCTGCCGCTG TTCTGCACA CGTGGTGGCG CCCTTAGCTG	180
	AATAAGTAAC GCTGGGCGGG TGTCCCGGCG ATCCAGSTAT TCTTCGAGGC TTTCTTCTTC	240
15	GGCGATGTCT GAGATATCTG GAGCACCGCG AGCATTCTGA TACAGTGGC CCGAAGATGT	300
	TTGCTTCGCG GTGAAGTCTC CCTCAAACCC GTAGAAGTCA TCGGGTATT CTCCATCCGG	360
20	CATTGTCAAT GTAGTAGTGG TCTCCACATA GCGTAGGCA TTGATGTGCT TCACCGTCTG	420
	GCGAGTCAAG GTCCGTGTAC GGCCTGGAG GTCTTGGTT TCGTGGTCT TCACCGTTAT	480
25	CGTATTGCA GCTGGGACAG CAGGAGGGCC AAAGCCGTTG TTCTGGGTA GCGAATTCCG	540
	GCGTCGTTGC GAGCTCATAC TGTAAGTCG CGGAGGCGCA CCGAGGTAGC TGCGGCGAGC	600
30	AGCTCTTAGC GACCCGCTCC GCGCGTACCC AGTCAGTGAC TGAGTCGGCC CCATCCCAAC	660
	CCCTGGTCTT CCGAGTGACG CAACCGAGCG CGGCGCAGAC GACAAGCCGC TGCTGTGTGA	720
35	ATA	723

## (2) INFORMATION FOR SEQ ID NO:618:

- |    |                                   |
|----|-----------------------------------|
| 40 | (i) SEQUENCE CHARACTERISTICS:     |
|    | (A) LENGTH: 721 base pairs        |
|    | (B) TYPE: nucleic acid            |
| 45 | (C) STRANDEDNESS: single          |
|    | (D) TOPOLOGY: linear              |
|    | (ii) MOLECULE TYPE: DNA (genomic) |
| 50 | (vi) ORIGINAL SOURCE:             |
|    | (A) ORGANISM: PAG1419UP           |

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:618:

5 GATCGGTCCG CCGCTGGGTA CCCATAGGGG CGAGGTGGCC GCGGGCCCGC CAGGTCACTG 60  
 CGCCCAAACC GCACCTGCAC CTGAACCGAG CCTGCAGCCC ACGAAGGAAC GCCACGCTAC 120  
 10 ATGTGCCCCGT GCAGAGCACC GCGCTTGCTT TCGGGGGCTG AAGTGACTGT GGCACGCTCC 180  
 GCAGGACATA TCTTTTAAAT GAGCTGTGTC ATGGGCACAT TCTCACCGTC GCGCTACCGT 240  
 15 AGCGTGGCCC TCTGTACCG TGTGAGCTGC TGCCAAAACA AACAAATGG GAGGGGCCCC 300  
 CATGCAGTAA TTACCTCCTC CCGAAGGCAA CGCCTTGTT TTGTTTACGT TGGCCAGAGA 360  
 20 TTTCTCTTT GGGTGGATT AGCTACCGG TCATCGCGT GGCAGAGGTG CCGCCCTGA 420  
 CAGTCTTCG AATATTAGAT GCTGGTATGC GGCACCGCT AGCCAAACG ATTGTAGTTT 480  
 25 AFTGTTTGT CACACCCCGC TAGAGGGCG AGCTACAGGA TCGCGATGT GCGTGACCG 540  
 ACAGCGTCAA CGTTACGATC TCAACGTCG CTGTCGCGG CCGTCTGTG GTAGGCGTTG 600  
 30 AGATACGCTT AGGATGAAAG CACGAAATT AAGTTGTG TAAAAACACA AAGTCAACTG 660  
 GGGTTCCGA ATGGGTTAGA GTCCATGTT AATGGCGAC GGAGAGTGT CATGGTCCGA 720  
 35 G 721

## (2) INFORMATION FOR SEQ ID NO:619:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 721 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1420RP

# EP 0 866 129 A2

(xl) SEQUENCE DESCRIPTION: SEQ ID NO:619:

5	GATCAATTCA AGGTTGCTTT CCGAGACATC TACCTGTGTT TCCAAAAGAT CGCTCAGCAG	60
	CACCCCGACT ACGAAGTGAC TGTCACGGGT CACTCACTGG GTGGCGGTTA TGCTACTTG	120
10	ATGGGCTTGG AGCTCCAGCT ACTTGGCCAC AAGCCACATG TGATCACCTA CGCCGGCCTG	180
	CGTATGGGTA ACCCTGACCT CAACAAATGG TACGACAAGG TGTTOGACAA CGTCAAGAAG	240
15	GTGGAGGACT TGAAAAACGG CGGAAACCCA AGAAAGCCTT ACATCCGTGT GGTTCAGAGC	300
	CGTGACATTG TTCTATGGT TCCAACGGC CCTATCTACA CGCAGCGGG TATCTATTT	360
20	ACCATCACTG ACGTGGACAG CGAAGTACCT CTACAATGG GGTGAGACT TGATGGCTGT	420
	AACACCAAGC TAAAGGAGTT GGTGGCGAC ATCTCTTCA GCGGAAGTT GCTAAGCTTG	480
25	GTGGGTCTCC TGAACACAA CAAATTTTTC AGAAGATGG CTTTGCCATG CACTGATAAT	540
	TCCTTGAAGC TATAATTCCG AGGAAGTAAT GAATTTAAG TACGGAACGT GCAGTGGCTG	600
30	CAGTCTCTG CCTCTTCTT ATGCCCTATA TAGTTAATTT GATGTTCTGT TCTATTTTTT	660
	TACATTTTCC AACACTGGG AATGCCACCT TGTAGATGTT GTTCCAAGA TGGATATTTA	720
35	G	721

(2) INFORMATION FOR SEQ ID NO:620:

40	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 626 base pairs
	(B) TYPE: nucleic acid
45	(C) STRANDEDNESS: single
	(D) TOPOLOGY: linear
	(ii) MOLECULE TYPE: DNA (genomic)
50	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1420UP

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:620:

5	GATCGTCCG GAGGCGCGCA CCAAGCGCAA GTGCATGGTG GTTGTGCGCG GCGTGGAGGT	60
	CTTCGAGATT GACATGAAGA AGCTGGGAA GACCTTCGCG TCCAAGTTTC CGACGGGTTG	120
10	CTCTGTGTCC AAGAAGCTCG AGAAGAAAGA GGAGGTGTG GTTCAAGCG ACATCGGGA	180
	CGAGGTGAG GCGTACATCC ACGCGCTGCT AGAGGAGAAG GCGATGAAG GTGTCAAGT	240
15	CGACGAGATA GACGCTGCCA AGAAGAAGAA GAAGAAGCG ACGAGACGA CGCGCGCGCC	300
	GTCGTGAAGA GCGGTCGCG ACATGTGTAT CAGATTGTA TGTAGTATT AATGATTGCC	360
20	GCGATTGCCA GTGTCTTACC AGTCCAAGAG GACAGGTGTC TGGCATGCTT GCACATTGCT	420
	GGGTCTCGG TGGGACCAT GAGCTGGAG ATGATCTAA TTGAATGGC GCTTAACCTG	480
25	CGTCTCGCG GAGCGCGGT ATTGGCAGT GCGACGAGG AATTGGACAG AGTCTTAAA	540
	CTGCACTACC GAGTGACATA CCATGGTTT GACCGGGCA CCAAGCGTC GGTGTGGGA	600
30	GTCTGCTGGC GGAGGCGAG AAGATC	626

## (2) INFORMATION FOR SEQ ID NO:621:

35	(i) SEQUENCE CHARACTERISTICS:
	(A) LENGTH: 582 base pairs
	(B) TYPE: nucleic acid
	(C) STRANDEDNESS: single
40	(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45	(vi) ORIGINAL SOURCE:
	(A) ORGANISM: PAG1421RP

50

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:621:

55	GATCCCTCAG TTCCCATCTT TGCTTCACA CCGAGATGG ACCATCGTA ACTGGGAGTT	60
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ATGCGGTTTC ATTGTCTTT TTAGTACAGT ATTATCTCTC TGGTTTACA TCCTACTTGT 120  
 5 TTTATCGTTA CTGGGTATG TATGGCATCT TAAATTTTAT CGACTCTAGT ATTTTATGA 180  
 CTGTGTAAAC TAATGAAAAA TAATGAATCG AAGTCTCGTT TACCTAGAGC TGATTATGCC 240  
 10 ACATGGGTAC TATGGGGTGG CCACCGCAAT TATGTATCTA TCCTACAGAT AATCCTTTCT 300  
 ATTAGCAGTT CTCACGAAAC GTCTCAGTTG CCACTCGAGC TCAGCATCCT TGTTCTCCAA 360  
 15 GGTGCCAGT GTGAGCTGT AGAGCTTCAT TTGGAACGT GGTCCCACT CCGCCAATTC 420  
 AACTCCATCT CTGCTCTTGA CGTATACGTG CTGCCGACA CTAATGAAAT CGCCCGGTT 480  
 20 CGCAAATGTG ATGACCCTAG GCTGTCTTT CTGACTCG GCGGGGACA TGTGCTTCAG 540  
 TATTTTAAAG ACCCGTTGCC CCAATGGAGT ATTGAATTA TC 582

(2) INFORMATION FOR SEQ ID NO:622:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 1152 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1421UP

(x) SEQUENCE DESCRIPTION: SEQ ID NO:622:

GATCATCATA CGGTGTCCAA CATGCCCAC GGAACCAACA GTCACTTGAA GTGGAACGCA 60  
 GGTAAACATAC GCGATGGCCT CCACGACGAC TTGGCCAGCT TCAAGGAGC AGTCGTGCAC 120  
 50 TGCTCAAGT TCCGACGGG CCAGTCCCGC GACTACCGC ACCAGTCGTC CATGTTCCGC 180  
 AAGGTTCTG CTGGCAGTGC CAAGTCCGGG TCGTGGTTCG GTGGGCGAC TGACTGCGCC 240

	GATGACTAC TCGAGCGCG GCGCGAGGC GCGCGGAGG CCGGTGCGA GCGCAGCTG	300
5	TGGTTCCGG GCGACAGCG CACCGAGGAT TCGGCGCGT CCGGTTCG GCGCGACCG	360
	CGCGACCGC GCGACACTG CTCGACCGC TCGTGGTTG GCGCGACCG ACCGAGGCG	420
10	CGCAGGAGG GCACCTGGT CAACGAGAG CCGACCGCT CCGGTTCG TCGGAGAAA	480
	CACGCCACG TCGACGAGT CCGCGTCTC TCGCGAATG GCGCGCGTC CCGGTGAC	540
15	ACCGCGCGT AGCGCGGAC GCGCGGCGA AGGTGACGA CATCAAGCAG GCAGGTGAG	600
	ACCTGGCGG CTCGCGGAG GCGAAGGTG AGGACTTCA GCGCGCGCG CCGACCTCG	660
20	GTCCTCTGC CCGGACCGC CTCGCGCGG GCGTTCGCA GCGCAAGCAG ACCCTCTAG	720
	GCGCGCGTC CCGGTCTCC GCGCGCGCG CTCGCTTC TCGCGCTCT CCGGACCGG	780
25	CTCGTTCG CCGGACAG ACCGAGTCC TCTCAACTG GCGTACAC AAGCGGAAA	840
	AGTGAAGGC CATGCCATC GCGGAGTAG ACAAGGCCA CAGGACTAC CAGCAGCGC	900
30	TGACGCTTA CACCGCTCC AAGCGCTGC TCGCGACCG CCGCAGCAG CTTCGACCG	960
	GCGTGAAGG CGCGCAGGC CAGTGGGTG ACTGTGCGA CAGCTGAC GCATCTCG	1020
35	CGGAGTTGA CCACTAGCG CCGGAGAACA TCTCGACAT CTTCGCGG CTGACCGAG	1080
	AGGACCGGA TTTCGCGCT TCGCGCTCT TTAGCTGGT CCGCTTCAAG GCGCGCTGT	1140
40	CGAAATGAC CT	1152

(2) INFORMATION FOR SEQ ID NO:623:

- |    |                                   |
|----|-----------------------------------|
| 45 | (i) SEQUENCE CHARACTERISTICS:     |
|    | (A) LENGTH: 713 base pairs        |
|    | (B) TYPE: nucleic acid            |
|    | (C) STRANDEDNESS: single          |
| 50 | (D) TOPOLOGY: linear              |
|    | (ii) MOLECULE TYPE: DNA (genomic) |
| 55 | (vi) ORIGINAL SOURCE:             |

(A) ORGANISM: PAG1422RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:623:

10	GATCCGTGTC CTGGGGCTGG TCGAGAACAT GAGGGGCTTT GTGTGCCCAT CGTCCGAAAA	60
	CGAGTGGACC ATCTTCAAGC CAACAACAGG TGGTGGTGGC GCGTTGTGGG AGGAGCTGGG	120
15	GATAAAGTTC CTTCGAGCGG TGGCGATTGA TCCGGGAATT GGAAGATGCT GCGACTCTGG	180
	CGAAAGCTTT TTGGAAGCGT ATCCGGACAG TCCAGCGTCG ACCGCCATCA TGCATGTGGT	240
20	AGAGGCTCTC CGTGACGCGG TCGCGGACGT ATAAGCGGCC TAGCAGTTCC TGCCAGTGAC	300
	AGACTGATAC CAGTTTATAC ATACATACAT ATTTGTAAAA AAGAGCGTTA GTGTTCAGTG	360
25	GATCGGAGCG CCGGTTTCAG GTAGATAGTT TCGGCTGTC CCAGCGCAA TGCAAGTAAT	420
	CTGTCTTTAA AAGACGGGGT CTCCAAGGCT TGTGATAAT TCTCAAGGAT GATATGACAG	480
30	ACAAGTTTGG ACATGACACA GCAAACGACG GAGAGTTCTC GGTGGGAGCC GAAATCCGTG	540
	GCCAGGAGCG GCAGAAGCCG GACCAGATCG GAAAGCAGCT CTGGGTGTG GTTGTGTGCA	600
35	AGTGCTATCT GGAGGTACTT CTCAAATACC CCCAGGCGGT GAGTCCAAGT TTCCATCTGT	660
	TGTGCGGGGA AAGTCTCCAA TAATTGACGC AGTGTCTGCA AGTTAGCAGC TGA	713

40

(2) INFORMATION FOR SEQ ID NO:624:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 642 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1422UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:624:

```

5      GATCTCTAG GGGCCAAGTC GACGACTACA GGGGGGCTTT TTGGGCCAAA GACGGAACAG      60
      AAGCCCGCAG GGGGCTTTT CGGACAGAGT AGTCCCGCTC CCAATGGCAC TGGCGGGGGT      120
10     GGTCTCTTUG CTAGCACGGG CAACAGGGGC AGCACCCAAT TGGGTGGGCT GTTGGGCAAC      180
      AGTGCTGGCG GGGTUGTGG GAGTCTTTT GGGCCCGGCT CGGCCGGAA CAACAACGCA      240
15     TCACCTCGT TGGGAAATCT CTTTGGGAAA CCTAATGACA CGGCACGGC AGCTGGTGG      300
      GGTCTTTTCA GCAATCGGC GAACACAGC ACCACAAATA CGTTTCTTC CACTAACAGT      360
20     CTTTTAGCA ATAATCAGG AAATGGTGG CAGAAATG GGGGGCTTT TGGTGGGAA      420
      CCTACGGGG GGTCTTTTGG AAACAGCAAC GCTCAGCCAC AGTGCTGGCT TTTTGGAGCT      480
25     TCCTCTCAC AGAATAATCA GCAGCAGCAG CAGCAACAC AGCAACTGTC CTTTCTGGT      540
      TCCAATCCAT ATGGCTGAA TGTACTGGT GTTCTGTTA CTACCATGCC GGAATCTATA      600
30     ACGGCAGCAA TTACGTCTAA GAAGAAGAG AAGCTACCG CT      642

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(2) INFORMATION FOR SEQ ID NO:625:

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35     (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 719 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: single
          (D) TOPOLOGY: linear
40

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(ii) MOLECULE TYPE: DNA (genomic)

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45     (vi) ORIGINAL SOURCE:
          (A) ORGANISM: PAG1423RP
50

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:625:

55

GATCGAACAC AAATTCATCT ACGAACACAA ACTTGGAGCG GTTGGTGTG GTTATATTGG 60  
 5 ACAGGAACAT TGACCTACCT TCAATGTTTG CGCATGTGTG GATCTACCAA TGTTTAGTAT 120  
 TTGACGTATT CAATCTCTCC AGAAATACGA TTTTCAGTACC GAATACTGAT GAAAAGGGAC 180  
 10 AACCCACATA TAAGAAGATG GATATTGAGC CTAAGACTT CTTTGGAGC ACAAATCGC 240  
 ACTTGGCGTT CCCAGACCA GTGGAGAATG TCGAAATGC ATTGGCAGAC TATAAGGCG 300  
 15 AGCGGAAGC GATAACCAGG AAGACAGCG TTGACAATAT AGGCGATTTA GATCCTAACT 360  
 CTCAAAATGA TACTTTGCAA ATTCAGGAGG CAGTGAACAA GTTGGCGGA CTGACTGCTA 420  
 20 GGAAGAATAT CATTGATACA CATATGAATG TTCTGGCTGC GTTGTGAAA GAGCTAGAAA 480  
 ATAAAGGTT GGATGTGTTT TTTGAAATGG AGCAACAAG TGA CTCTGCT AAGGTGAGC 540  
 25 AAGCATTCAT GGAGTTTTG AAGATGGCA AGACCAATAA CCTCAAGGAC AAGTTAAGGA 600  
 CACACATAAT CATCTATTG ACTAGTTGG AGAAGCTTC CGATCAATTC GTCCAACATG 660  
 30 TTGAGAGTTA CTCCAAGAT AATAATTTG AAACGCCAGC GTTGAAGTAC TCTATAAGT 719

## (2) INFORMATION FOR SEQ ID NO:626:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 719 base pairs  
 (B) TYPE: nucleic acid  
 40 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1423UP

50  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:626:

55 GATCATCTG TTGAACTGCA TGCTCATGTC GTCCGATGAG TACACATGAT TGAAGTCAA 60

CAAATGTTTG CCGACTTGA CTTTGCCGCC ACGCAACGTC GCAAACAATC CGTCGCTGGA 120  
 5 CCGAAAGTCT GGGATGCCTG CAGCCACAGA GATCCCGCA CCGTGACCA CCACGATGTC 180  
 CCGACTGTGC TGGAGCCCAT ACCGAATGAA GTGGGGTCC CCGGGGCTCA CCAGCTCCGG 240  
 10 GTCAGTGAAG TAATGCGCTA GCTGAAATAC CGAGTTCGTC GCAGGCGTGT ACGTCAGCCG 300  
 CGGCTTCTTC CCGACCGGAG CCGGGGCTTT GCGCAGGCC GGTAAAGCTT CTTGCGGTGT 360  
 15 GAGCTCTCTG GACACGCTCG GCGGCTGTC GCAGGCTCTT GTCTGCTTCT TTTTGACGCT 420  
 CGAGGGCGGC GTGATGCGCA GCTTCACCTT CATCGGCGAC CGGTACCGCT TCACACGAT 480  
 20 ACCACAGTA GCTCCGTC TCCGCGAGT TCCACAAAC TCTGCCGCTT GCTGCACTCG 540  
 TGGTTGCCCC GCTGGGTGC GTGTAGCGA CATGAAATGA GTGACGGCGG GCCCAATTTT 600  
 25 GCGGGCGTTC GCTTTCGACC AATCCGAAA ACTTATCCCC CGTAAACAA AGGCAGGACT 660  
 TCGGTGTGG CGATAGCGCC TTTTGTGCA TGGGCTCTG GTCCCGTTAC GCGTACATT 719

(2) INFORMATION FOR SEQ ID NO:627:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1424RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:627:

GATCTCATCT GTATTTGGAA GCGAACCCAC CAGACGGGG TGACTGCGAG AAGCTGCCAG 60  
 AGGAGAGAGA AAACATAGAA AATATATTTA TATTATCTAT ATTCACTTTA CATAAGAATG 120

TGTCATAATT TTATGTGTTT TAGATTTCGA CTGCGAGTG CCTGCGATAT GACTATCCTT 180  
 5 TTATTCTAGA TTCAGTGCTA GCTAGTCGCA AGGAAATOGA TATCGTAATT CCCATTAGA 240  
 ACAAGATACA AATTAGCGAA TTTCOCGGAA AAACCGGTCT TATAATACAG CATCATTCGC 300  
 10 GAATCCATAC CAGTCCTTCA ATTAACTTC CGAATCAAAA AAGGCCCGGC GCGGTCTCAA 360  
 GAATCTTTTC GCCAGTACTC GAATGGTGAC TATCAGCAAG CGACTCTTCA CTACCCGAAA 420  
 15 CGACCAGTAT ATTTGTGTGC AGCAAATGAT TTAAGGCTCT CGAGACACTT CTTATTGGCG 480  
 TCCTATGTGT TCTGTGCACG CCTGCGCCCC GATAAAGAAT GCAGGTGCGC TAATAGTAAT 540  
 20 TACTAACCGT TTTTAAATC GCGTCTTGG TTGAGACCTG TGAAACGATA ATCCCATTTA 600  
 TACCAGATGA ACTCGCCGCA CTATAGTGTG CGTAATTCAG CACTGTGGAT TCCAGTTAG 660  
 25 GGTGCGCGAA GTAGCAAATT TGTGTATCCT CCATAATAAG GATATCCAAT GCCAGTATAA 720  
 TAGT 724

(2) INFORMATION FOR SEQ ID NO:628:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 720 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1424UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:628:

GATCATCGTA TGCACTCAGT TGTATTCTAG CATAGCCCGT GCGATTGCGG TGATTTCGAA 60  
 55 CGATGATGAC AGGCAAATCA CCATGAGGAG CGAGGATTC TCCGCTAAAT TCAGCTGCAT 120

TTGCAACAAA GATGGGCTGT TTCTATGCGA GCGGCTTCAC ACGGGCGTAA AACATGTTGG 180  
 5 AAATGCTGCT CGCTCTGCCT TGGGCTGGGT GTGGGCTCAG CCAGACGGTC TGTFTGCTTC 240  
 TAATGTGGGG GAGAGTGGTT CTACTCAGGT GTTCAGCGTG CTGAATAACT TGCCTATCCT 300  
 10 TACAAGTCTT GAGCTGAGGC AATCCAGGTT TCCAAGTCCA ATAGTCTACG GGCGCGAAGG 360  
 TTGTGGCGAA TGCACAGTGA TGGTAACTT ATTACTACAG CCCACTGCCA GCGTACAGAC 420  
 15 AACCTACAAT GACGGGCGGT TGTACAATAA AATCAATTCC GCTTGCTCGA CCGTTAAGCC 480  
 AAAGCTATAC CGTACCTTGT GTGCTTCCTT GTTTCATTA GCGTTGCAT GTGCTTTTTT 540  
 20 ACTGTGATTA CAGAGCCTTT CTGTAGAATG TGTACGTGAA TTTAATACTA GAGAGCTATA 600  
 AAGCTCTCTT GTCTTGTAA TGTCTGTTTC AGAAGATAAA AGGTACACC AGAAAACGAG 660  
 25 GTACGACCCA ACGGCTATTG GACTACGAAC TGGACAAAAA CTAAGAGTGG TAAGTAAGAA 720

## (2) INFORMATION FOR SEQ ID NO:629:

30

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 710 base pairs  
 (B) TYPE: nucleic acid  
 35 (C) STRANDETNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

40

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1425RP

45

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:629:

50 GATCAAGTCC CACTTGGTTG CAACAGTATT GCTGAGACTA TCATTCCTGT AGAGCGATTG 60  
 TTGTGAAGCA GTTGGCCCGG TGTATGAAAC CCGTGTGTTA CCAAGTGGAG GCGTTGTGTC 120  
 55 AGAAATTTTA GTTCTTCTC GAACGTATTC GTGCTCTGG AGAATAAGT TTTGTGCTC 180



GACATAGTCA GGGTCAAAA CATTACACAG TGTGTATCA TATGGCGGCC GGCTGCCGGA 240  
 5 GGTGTGGGA TCAGCCCTTC TGTGGCTTC CGAGTCTCCA ACCCTCGAGA TAGCTTTTGA 300  
 TAAGTTGTAG AAGTGTCCA AAATATGCTC TTGCGCGAGA GGAGCAACGC TCGAGCCCTT 360  
 10 GAACAGTGAT CCACTAGAAC TTCTTGCAGT ACCCTGCGCG TCAGCATTAT TGCTATTGTG 420  
 TGTACTGCTC GAGTTGGCCA GATTAGATAT ATCAAACGTG TTCGATTGTG TGGAACTTT 480  
 15 ATATTCAATCA TATGCTCCAA AAGAATCTCT GCTTTGGCGA GAGCTGCGG CTGCATGAGG 540  
 AGGAGGAGCC ATAAAAGATG AATCCCTGCC AGGAGAGTTG TGTAAACGCC CAAATGGTGA 600  
 20 TGCAGCGTAG TTGTCAATAA TTGAACCAG ATCTGCAAGC GACTTGTACA GGTCCTGGG 660  
 GTGTATCTT GCTTGGGGT CGCCAACTTC TTAAATGGAC CCGAAGAAGC 710

25 (2) INFORMATION FOR SEQ ID NO:630:

(i) SEQUENCE CHARACTERISTICS:

- 30 (A) LENGTH: 711 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 40 (A) ORGANISM: PAG1425UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:630:

GATCATACAC GGCTTGGCCA TACAGTTGOC CAGCACCAGC ACCCGCGACA GCTTCCAACG 60  
 50 GCTAGAGACG GACACCGCAG GCTTTGTGOC CCACGACCTT TCCCGCTGGG CCGACAGCAC 120  
 CAATGCATAC ATAAACGGCA CAGAGGCCCTC CGTAAATGCC GGCTCTCTCG GCTGGGTAC 180  
 55 CACAGCCACT ACAGCCCTCA ATACCACGCT GCGCGGCCCTG CTGCGCGACA TCGATTCCAC 240

CGTCGACCCG GGGTTGCGAG ACACGCCACT TCACCGCCCC ATGGTGACCG TTGTCTCTTG 300

5 TGTAAATCGG AACAAGTTGC GGGCCATCGA GGCAGGCGTC ACCTGGACCC ACGACCACTT 360

AAGCATCGCC CTGCGCGCGA TCATACCGC CCGCTTTCG GACCTGTTCG CAGAACCAGA 420

10 CCTTCCAACC CATCCCGGCT ACACAGCGGT GCTOCAGTCC CTCAGTGACC GCTTACGTCA 480

TTGGGTGAC CGTGTGCTAC ATCAGTCTTG TCGCGGGTC CGCATTGAAC TCTACGTATC 540

15 GCTTGCCCTG CTGGGCTCT GGATTTCTGA GACACCTCTC GGTGTGCCAA TGCTCTAATT 600

CAAGTCGCAC TCCGTCGCA GGAACTGGG CCGCAGAATG CCTTGAGGCT AATTCTTACA 660

20 TAATCTTAAT TCGCATTTCT GCTGCTCGAA CAGGAAGTCC GCGTTAGCGG G 711

## (2) INFORMATION FOR SEQ ID NO:631:

25 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1426RP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:631:

45 GATCTTCTCT CCGCTGACG TCACTGGCGG CATGCACGAC GCCATGAAGT GCTGCTGCCG 60

CTCTGATCG CCGTGGTGA CTGCTAGCGG CGACTGGGCG TCAGAAACC GGGCATCTTT 120

50 GTTGCATCC TGCAGCAGCA CCACACATG CCGAAGCACC GGCTGCGTGG CTGCTTTTCG 180

TAGCTGAAAC GAAAGAAGAC GCGCTATAGG CCGCTGCGCT AGCATATACA CCCACGGGAC 240

55 ACCCATAACA GCGCTTCTAA CCGTCAACCG AGTCACTGAG AACTGGCGTA GTGCCATCA 300

TOGACCTGGC GATTTTTCAT TCTAGTGAAT AATCCTTACA CCGCCAACAC AAAGGCAGCT 360  
 5 TCACCACCAT TCTGGCTCAA CTAGGAGGCG TGTCGGGCGA ACCAGGAACG CGTACTCGG 420  
 TAAGCGGGCA TCTAGTCAAG TGGGCAGTIG CAGGCGACTT CTTTTGTGT GTTATTCAGG 480  
 10 GTGTAGGATG CTGTATTAG GGTGACAG AGGTATTGCA TGCGGCAAGT CGAGGGTGTG 540  
 GCGGAGACTG CAGGAGCAT ACGGATCCC GGTGATCGAT GCGGATCGA TTGCGCGGA 600  
 15 GATTATGGG CCGGGGAGC GGGGTACCA CCGGTGGTGG AACGGTTGA GCAACGGGTG 660  
 CCGCAACTGG TCAGGCGAA CCGGAGCTG AACCGCGGG CCTGGGGC GTGGATCTTC 720  
 20 CA 722

## (2) INFORMATION FOR SEQ ID NO:632:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 30 (D) TOPOLOGY: linear  
  
 (ii) MOLECULE TYPE: DNA (genomic)  
  
 35 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1426UP

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:632:  
  
 45 GATCTGCTCC AGCGCTGCT TGAACCAATC TCAGAAGAG TGTCGGCTC GTCAAGAACC 60  
 TTGAAGTCAA CCTCGTAA GTACTTTGGA CCGCAAGCCT CGAGCATGTC GATCAACGG 120  
 50 CCGGGGTGG CAACCACGAT ATTGGGCTC CTGGCTCTA GGGATCTGAA AGTTTCAGTC 180  
 CCGAGGAGC CCGCATCAT GACAACGCA TTGAAAGGC GAAGCTTCT GTTGGGTG 240  
 55 CGCATCTCGT TGATCTGTT GAAGATCTGC GCGGCAAGT CCTGGTGG TCAATCACA 300

ACAGCCTTGA CATTITTCGA AGGAGGCCCC TCCAAGAGCC GGTGGAACAG CGGCATCAGA 360  
 5 AACGCAAGTG TCTTACCTGT TCCAGTTTTC GCGCGTGCCA CCACATGGTG CTCGGTCTGC 420  
 AGGATGGGCT TCAGCGTCTT CTGCTGCACC GGTGTAGTT TATCGAAGCC GCGTGACTGC 480  
 10 AGCATCTGGT ACAGCTGGTT GCTGAGCAAG CCTCTCTCCA CCAAGGTCCG CGGTGTGCTT 540  
 TCGACCCCGC CAGCTTCGTC GGCACACGC ACCACCTCGG TGTGGGGCC GAGGCTGAAT 600  
 15 CCTCGGGCG CCGCGCGTC TGTAGGGCG GGTCTGCCCT GTGGCTTCGG CCACATGCCG 660  
 CCGCGGGGAC CAGGCTCACC ATCTCTCTG TCGCTGCCCG GCT 703

(2) INFORMATION FOR SEQ ID NO:633:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 711 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1427RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:633:

GATCTTTCTA TCCGGGAAAG AGTCCATCGA ATACAAGGTG CTCTAGAAG GCGCCTATGG 60  
 AAACACCATT CCGCGGCTTG CTGCTCTGA CCGCGCTAC GTGGGGGCA GCGCAGGTCT 120  
 45 TGGCGTAGCA GCGGTCTACC CACACTTGGT CTCTCTGTTG GACAAGGAAA GCGAGTTCAC 180  
 CCATTCAITC TACTGGATTA TAAATGAOCT TTCATATCTG CATTGTTTTT CCGATGAGCT 240  
 GAGGTACCTG GCGGACCGA ACTGGGACAT CAAAATTATT TACCGAGGA GCAATGAGTC 300  
 55 GGCTAAAGAA CTGACCCCGA ATGTTGCGA TTCCGCTCT GCGAAGTTGG TGATTCGCT 360

GGATATCTGC AGGCTCTCC TCGCCCCAGA TCTCAAAGAG ATGTGGAAG AGCAGATCT 420  
 5 OCTCTGCTT AACCAGGCAC AGGACGTCAC GTTTATTAGC AGCGGCGCTT CGAOCCTTAA 480  
 TGACCATTC OGCTATGCTG TGAAATCTAG CATCAGGCG AACTCCAGT GTGATGTGA 540  
 10 CCTAGAGGAG GAAAGCTACA CCTGGTAGAT AGATAACATC TTATTAGTTA ATTGTACTTA 600  
 TTTATCTCTC TTCTGTATC TTAAGCAAAT CCGGCATGT CTCACCCAGC TTCTGCATGC 660  
 15 TTGCGGATT GAGCCCTGCC TCGACCACT CCAGAGGTAC CTGGTTTTC G 711

## (2) INFORMATION FOR SEQ ID NO:634:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1427UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:634:

GATCATCTTG TCCATGCCCT TGGGGCCAG CGACGTTCTG ATCCATCCG CGACTGCTCT 60  
 40 GGCAGCAATA ATGTTGGCT TTCTCACTTC CTGCGGCTTC TCGGGTTTT TGAAGTCCG 120  
 ATTGCTGGCA CTGACCTTG GTGGCATCTT AATATACTTC CTGATTCGC GCGCCAGAAG 180  
 45 CCTACTTGC TGCTAGAGAA GTTAAGGTTG TTGTTTATG CTGACACGC CTAAGTTACC 240  
 GTCAAACGAT CAGATTTTTG CCACTGGAAT TTCCCTTGT ACAACCGAT ACTTGATCT 300  
 50 TTGATCTCCA AGAGCTGTT CATCGGATG GCTGCTGAG TAGTCCCGG TTGAAGGGAA 360  
 AATCGGGCT CGACAACCTG GGAAATGTCT ACGGAGGACG CGCGTTAAC ACGGATCCG 420  
 55

GTGACGGCAG AGCTCAAAAA AAAATGGCGG TTTTCAGCT GGTATGAGGC GTTCAAGGCG 480  
 5 CAACTTCGCG GGGCGAGGT GATTGGGCGG CTGCGCGAGG AGTTCTGAG CTACGTGGAT 540  
 CAGCGCGGGA TCAGGCTGGC GCGCGAAGAA GGCTCGAAGT ATTTCTACGG CCAGGAATGG 600  
 10 AGCTTACGAC CGACGGAGAG TACAGCGACT GCGAAGGCGG CGACAGCGCG AGTGAGCGGT 660  
 CGTTCTGCGC GCTGGACCGG TGGCGGACTT CCGGAAGTG CACCGCGGGG TGAAGCAG 718

(2) INFORMATION FOR SEQ ID NO:635:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 723 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1428RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:635:

GATCATACAC GCATTGCAGG TATACATTAT AGTGCTCATTA ATTATCGGAT TGCAAATAGA 60  
 40 ATGGGGCCCT TACCGTAGTA CTGTCTTGGT AATGCAGCGA CGCTCAGGCT TAAGAAGCTT 120  
 TTGTTCCTCC GTGTATTACT AACAAAATAA TTCTCTGAG CACAGGGAGT AGAGATGAAT 180  
 45 TACATAATCC ATATGGACAC CTGCTCACCT TCCAGCGACA TTAACATTTC CTTATGAATG 240  
 CCAATAATG GTCCCTAAAT GATGTGCTTG GTGTAATCGG CATTATAAAA TGTATGTGGA 300  
 50 TTATATATTG TTTGTAGCAT CTAGTAGAAC CATGGTAGCG AGGTCTTTGG CCATACCCCT 360  
 CTGAAGAGAG ACATAGCAAC AGTGTCTTGT GCAGACAGTC TCGCGTCGAA TGTTCCTTG 420  
 55 AAGTAACCAT GAGTACCAAG ACTCTCCTTA ATGAGGCCAG AGCGTCCAGA TTTCTGAAT 480

AGTGGGATCG ACTTGAACCA CTCGACATCT TCTGGCCTAA AGAACATATA GCGCACTGTG 540  
 5 ACGACGGCCT TGTTGGAACCT GAATGGATGG CCACTTAATA TGATTCTCTT GCGCAATATC 600  
 CGTGTGTGGT CTGCGTTTCAG GAACGTGCGG TGGGCCACGA ACGTCAGGCC CTTTGGATCA 660  
 10 GAGGGGTTTT CTTTGAAGTA GATGGCGGT GACTGGGTCA GGTCCAAGGG AAGCATGCAT 720  
 GTC 723

15 (2) INFORMATION FOR SEQ ID NO:636:

(i) SEQUENCE CHARACTERISTICS:

20 (A) LENGTH: 726 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

30 (A) ORGANISM: PAG1428UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:636:

35 GATCAAAACA GAGTGGAAG CCGACACCGG GCACTGGCGG GAGCCCTTAC CGTAGTTTCT 60  
 TGGTGGGAG AACCAAAAGT TTTGTGAGC CATCTGTCTT GCAATGGTT AGTACTCTGT 120  
 40 CTGACCGCTT GGAAGCGTC CCGCCCTCGT GAGCTGCCA CACGCTGGC GTCTGGGCG 180  
 TCTCATTC CCGACCGTA TTCTGCTGC ACGACAGCT CTAGACCACA CTTGCCCCA 240  
 45 TCTGTGCAC ATACGATAT GCTTGTCTC TTGGTATTAT CCTAGATTG GCTAGACTTC 300  
 GACACTATG TTATCACCAC TGTTGAAGT TGCTTCGGT GGCACCCAA GTCTGGGAC 360  
 50 TGTAATTGA AAGCGAGTT CCGGCAAT CAAGCATCTC ATAACTGTG GGTGCAACG 420  
 TTGAATGTG GGGTGAACA GTCAATTGTA ATTCTTTTT TTGATCGAG GATGGATGC 480  
 55

GATGAGCTAG TTGAAAAATT TTAGTATGGC AAAACTGGCA TGCATATCTG AGATGGGCGA 540  
 5 TCAATTGCGG CAGCTTAGTG TTAGAGGACC AATCCAGAGG TGGTAATTGG GCTATGGCAG 600  
 GTCACTGGCA CAGGTGCTCG GTAAAAAAGG GCCACAAAAC GTTCAAGTCG AAGCATGGCA 660  
 10 GCAAGGGGCG GTTGAAACGG CTGCACAAGG GCAAAGTGA ACAGGAGACC GCTGCTGGGG 720  
 TGAAGG 726

(2) INFORMATION FOR SEQ ID NO:637:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1429RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:637:

GATCAAAGTT TAGCATGTAA ATGTGCAACA AACTATTTAT TACCTCTGCA CTGCCCCATGT 60  
 CGCTTGAAAC CCGGAGGAT CCAAACCACT GCTTTCATAA TGGAAATGCA AAATTGAGTG 120  
 CAGTAATGA TAAGTATCTT GAGAAAAGCC CTCCCGACTT TACCTTAGAT GATTGCTTAA 180  
 TATGTTCAAA AGCCTCCGAG TTAATAAAAA GGCTTGCTAC ATCCAAGGTG CATATAGATG 240  
 TGATAGATGA GACTAACAGC ACCAATTCATA AAAAGCGGAA GGGCAATTTT CGAATCACAT 300  
 CAGCCAGAGC AGTATACACA TCAATTTGGA ATGTGCTATT AAGAAAGTTG GATAGCGTTG 360  
 TOGACCAAGG AAAGGTAGAA ACGGTCCAAT CTTTGATCA GATACTTGAG AATTTCCTTA 420  
 TTAAGTIGAA AGAAGTGGAC TTTACTCTAT CTGGGGTTGC TGTGATGTAT AGCACTATTG 480



ACTACTGGAA CCCCCACATG ATCCAGGCT ACGGCAAAGT TAGGACTGTA GAGCATTTCC 540  
 5 TGGTGCAGTA TATCTTACAT CGATATGAGG TATTATATGT GCGCGCGAT GAAAGCCTAC 600  
 TAGATAGTCT GGTGGTGCC ACTATTGGA AGCTATTTGA ATGCATGCAG TCACAGCATG 660  
 10 ACCAOCAGAG CCTGGTAGCG AATAGCCAGG CTGATACCGC ACGAAGAGAT AT 712

(2) INFORMATION FOR SEQ ID NO:638:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1429UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:638:

GATCAACCGA TAGCGGAAGG CGGACGAGCC TCGGAATAG TACTAGGCAG TGGTTGGCTT 60  
 35 TTGTTTITAG CTGTGTTTCA AGATGTCAGC GAGAACAAC AGGAGGCAG GCGCTCCAG 120  
 GGTGATGGGA GGTGGAGTA GTATGGATG AAAGTCGGG ACAGGAACAG GGTATTTGGA 180  
 40 ACAGCTGAAC TCGCCAAGCA TTCAGAAGCT CATGCACTG GAGCTTCCA CGACAGCACT 240  
 ATTGGAGAGG TTGAAGATGT CCTAGTGAC TTGGGTGGAG TTCACGAAGT TCATAAGAAA 300  
 45 GAAATACTTG CTAGAAGAGG GCCATGCGCA GGAGTGGGC AAGGCTTATA AGAATCTCTT 360  
 TCCGAGGGC GGTGAGTCA GCTTCAGAA TAGCATACT AAGTPTTTGG AGTATGACGG 420  
 50 AAAACTTGG CAGGTGAAC TTTCATATGT TGCTGGTTG CAGAAGATGT ACGATGAGTT 480  
 55 AAGTGGCTT CTGCATCA TGAATAAAT GCGCAAATC CTCAAGGAGA GCAGTGGCG 540

GTTCGAAAAA GAAGTCGCAG ATGCTATACA TAGCCCGGAA AAGGCAAGG CAAGATATAT 600

GTCTTTGTGC ATGGATTGGG AGAAGCTCAA GCTTGTAGAT CCGCAAAGA CGAAGTTGAC 660

ATTGCGGGGC TCAAAGACCA CTCGAGAGCA GGAAGAGGAC TTATTAGAAA GATTGATA 718

(2) INFORMATION FOR SEQ ID NO:639:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 730 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1430RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:639:

GATGCGAGAG AGACACAATG TCCTGTGCC CACTTTGTCT ATGCTTATC ATTTATTGAT 60

TCTTGTGCAG GGGAAACTG AAGGCCAAC AGGAATTGT CAACCATGTT TAACTTTTC 120

CATGTGCATG GAGCTCGTA TGTAGCAATA TATTCTATA GCTAGAGATC TCACTATATA 180

TTAGCTTGGC ACATTTATGT CATATCGACG TTGTTTTTG TACACCTTTG TGTCAAGTAG 240

CAGGGGCGC ACATAACTAG TTATAAAAC GATGCGCGC GAGAAGAGA TCTACTATCT 300

CTCTAGTAG GCACAGTTT CAACGTATTA GTCTTAATG AGCAAGCGAA TCATTCAACT 360

CATACTTCTC TCTGCCTTTG CGGAGCTAA TTACGTGGAG CCTTCAAAT CAAATCCATA 420

CATTGCTTGC TCAGAGGCAA GCCATTGCC AAAGGAATGG CCATGCTGCT CCCAATATGG 480

ACAATGGGG AGTGGGCGC TATGCATTAG TGGCTCAAC CCAAAATTCT CGCATAGCCC 540

TGAGAGCTGC GTGCCAGTGC CGGCGTACT ACCGCAATTG GAGATAGTGG CCAGCGATGA 600

TAAAGGAGTA TACCTAGAGA TGTCGGGTCA GCGTGCCTTG GTCACAAAGT TCCAGCGCAA 660  
 5 GAGCTCGGCG CAGTTGTGTG AGGTACATCA CGAGGAACAG CAGTATGCTG TGTCGGCATT 720  
 AGAGCAAGAC 730

(2) INFORMATION FOR SEQ ID NO:640:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1430UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:640:

GATCGATTTG GTTACCTTGT TGTCACCC AGGTACTTCA AGAGATTCCG AGGCAGAGTT 60  
 GTAGACAGCG TACCTATTTC GAGCGACAAA AGTCGCAAAG CTTCCTTAT CCTCAACTAT 120  
 ATTGTGGCA TCAACAGCAC CGCTAGCTG TTTTGGAGC AGGCAAGAG CATACTATC 180  
 GGCATCCCTG CTACTTGAGT TCAAGAGGAG AGAGTGTTC GAGGGATTAT AAGAGATGA 240  
 CTGACACAG TTATATGGCT TTCCAAAGTT TTTAGAGAA ACAATGGCA GAGAGACAC 300  
 CTCTTTTCA TAGTCAAACA TTGGACCTG CTCTCTTTG TTGACAAAGT AAAGCTGGT 360  
 CTGGTTCACA GGCACAGGTC GTCTCTCAG GTCCAGTTA AAGACCATGA TACCGAGTC 420  
 ATGCGCCGCG CCAAAGAGGT TCACATTAGG GTGCGCCTA ATGACCAGA ATCTGTCTG 480  
 TTCTTTTGT AACTGTTTTA CAGGAGTGG CTGTCTAGA TCCAGACCC TAATGTTAGA 540  
 ATCTCGCGG ACAGAGATAA TTAGGTTTTC AATGGGTC AATATTACAC TGTCAGGTT 600

GTTCGTATGA CCTTGCACCTT GTCGACCTCC CACGCTTTGG TGGAGCTCAT ACGCCACAAC 660

5 TTGACCTGTC TGTCTTCAGA ACCCGAGACA ATCAAGGGCA GAATGGGATG GAACGAAGG 719

(2) INFORMATION FOR SEQ ID NO:641:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 730 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1431RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:641:

30 GATCATGTTA TACAGACCTT CAAAGTTGAT ACCAAAACCC TCAATGGACT CCTTGACCAT 60

ACTTGGTACT TCCTGTTTAG AGGCCCTGCG GCACACTTAC TGCTCTACA AGAAAAACT 120

35 GTTGCCCTCG AATTGGATCA CCTTTTTCG GACACTAACC ATTTGCAATA CAATGCTATA 180

TTGCTCTAT CAATGGTCTA TTGACCTTGT TGAATCCAAG CTGAAATCC AGCAATGTGT 240

40 AGAGATACTG CAGCATTTTG GTGAGAAATG GGTTTTTCOC AAGGAGTGTG CGTGTGCTTT 300

TCAAAATATT GGAAATGCGA TACTAGATAT AAGTCTCTCC CGAGGACAGG TAGAAAACGT 360

45 TGATAAATTG ACTAGGGAGC TATTTGGAGC TAGCAATGAA TACCAAGATA TATTGGACGA 420

AAATAACGTA GATATATCCT GGATTGACCT GCTATCTAA TTTCTGAAAC CATTGAGAAC 480

50 CTGTTTAAAC TATTTGGCAG TAATTCATAA TGTATTGGTT GTTCATAGC TGAATTGCTA 540

TTGCCCTAT GGAGTTGCTT ATGCAATACA CCGGTTAGTG GGTGATTGTC GTGTCTTAT 600

55 ACCCAAATA ACCGAATCCG GTCCTAATCG ACTCCGSTAG ACTTTGTGAT CCAGTAAGAC 660

ATGTCTTACA CGCCCCGATTA ATGGTTGTAA TCTTTAATCG ATGAATGAGA AATGGTATAT 720

5 GTATGTGACT 730

(2) INFORMATION FOR SEQ ID NO:642:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid

15 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1431UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:642:

30 GATCTCTGT ACCATCATGA AAGTCTTTTT ATCAAGGGAA AACCGTTTC TCAGGCACAT 60

CTGAAGCAGT GCTTGTGCA CATCAAAGT CAAGTTCCGA TCCCTTGGA GCGCTTCCAA 120

35 CTCCAGAAC TCCTTCTGCA GATTTTTTAC TGGCGCGGC ACAACTTCTG CCTGCTCTG 180

GCGACATAT TTCTTTAACA CCTCCTCGG AATCTTAAAG TCCTTCACAT TATAGGACT 240

40 TAGGAGACT TOGAATAAGA AGAGGCACCT TATATATAAG TTGACATAT CCAGTTTCAT 300

CTGGCACCCC CGCAGATCA GTCCCGGTA GTCCAAGTC GCTTTCTTC TTGAATTGT 360

45 AGAGCTCGCC CCGAGGATG AGCCTCGTG ATCAGAGGTG CCTGTCTTCA GCGAGAGCTG 420

TGGCATACTC GCGTGTGTG CAAGCTCAC CTTCACCTGC TTGGCAAAGT TCACATTTAG 480

50 GCGCTGCGCA AACGGTCCA GTGAGCGAA GATATGGTTC ACCAGCTGA GTGGCATGC 540

CATCTTGTTC ACGTCCAGTG ACAAGTTCCC TTGGCCTAGC TGGTGCATA GGGCGCGCT 600

55 CTGTGTGAGT TGTGCTGCC ACACAGAGTC CAATTCCACT CGCATCATGC GCATCGGTG 660

CTTCAACGCA CGCTCACTGA TCTCCCCCTCG CTCAGGCATC TGTGGAGGCT CTCTCGGCT 720

5 TC 722

(2) INFORMATION FOR SEQ ID NO:643:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1432RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:643:

30 GATCCAGGAC TGGCGTGCTT GGTTCGGCTC AAGGGAGACT TAGAAATGAG GTGTGGGOC 60

GCATTCTGGG CTGCAGATAG AAACGAAGAC AAGATCCAC CGTTACCCAA TTCTTCAGCC 120

35 CCAGAGAAAA AATTCCCGTA CCGGTGCTTC CCAGTACCAT CCTGGTCAAA GGTGTGATA 180

TCCGAAAAAT TATCTCAGT GTCTCTCTTG TATCTGCAT CCGAGCGGT GCTTTGGCC 240

40 GCGCGCGGG GCTGGCGGC CGGCGCAGAC CGCACATGG AGTGGCGGC GCTCATCTCA 300

ATTGGCATGC TGAGCGACGA CGAATTCTG TGGCGCGGC TATGCCAGCT GCGCGGTCC 360

45 CCGCCACCCC ACCCCAGGG GAGCGACGAG TTTGTCTGT TGGGTAAAC CACCGGTGC 420

GACATGAGCC ACGATTCTG TCTGACACC CGGCTCTCA CATCCAGCC CTCGCGGCG 480

50 GCCACCTGGA CATCACCGC CTCGCGGCG GTGCGCGCT CCGCATTCG CGTGGCTACC 540

CGTCTTTTGG CACTGCTGC GCGCGGCTC CGCGCGGCT CCGCGTATG CTCTTTGAAA 600

55 AGTGGCGGC GCTCTCTCTG ACGGACCGG ACGGCTTCG CTGCTTGGC ATCTTGTCTA 660

GCCTCTGCT GAGAGAGCA TCTACCTCTC CTCCTGTGT ATTCCGCGC CTTTTTGGG 720

5 AACA 724

(2) INFORMATION FOR SEQ ID NO:644:

10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 615 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1432UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:644:

GATCCCGGTC GCGCGCTCTT CCTGAACAT GTCTGTACC CCGGCAGCG GCTGGAACAT 60  
 30 CCGGCCACC CCACCTACT GCGCGCGAA GAACTGTGTG TCACCAAGT GTTCGTGGCG 120  
 CCGCTGGTCC GCGCGCGCA TATCTCTCTC CTCCTGTAA GCTCTCTCT GCAGAGACTC 180  
 35 CCGCACTTC TGTGTGTGT ACTCCGCGC CCGCGCGCG CTTCAGGCC CACTCGGTCC 240  
 GCGAGCTGC GTGTGCGGC CGTCTCGAA GTACAGGAG ATTGCGTTC CCACGTCCC 300  
 40 AACTGCATA TCAGGAAT GCGCGCGAG CTCGCGTCTG GGCACACGC AGATGCTTG 360  
 GAATAGCGG AGTGTCTGT CTGAATCAT GCTCTACTT TCTGGCGTG CCGTCTGTG 420  
 45 TGGCACACTC AGGAGTTGT CTGAGTGT CCGTGGTCC AGCTTTTAT ACCGCGCGT 480  
 GGCACATG CCGCGCGCC AAAGCTTAT ACATATACAT GCTACTTAGT CCGCGCTTG 540  
 50 GTACCCGCC CTCTCGAA GCGGTGTGC GTGCGCTGA AGTGACCGG CTGATGCGG 600  
 CGGCTGGG CCGG 615  
 55

## (2) INFORMATION FOR SEQ ID NO:645:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1433RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:645:

GATCGATGCG GACCACCGTG CGSAGGAGGC CGCAGGTGGA TATGCAGTTT GCGCGCGTGA	60
GCGCGCGGAT TTGAGAGCT CCGCGGTCCG CTGGGTGCC CGTTGGCG AGCCACGGAA	120
CCAGCTGACG CGAGGTGTCT CCCCCCGGC TGGCGTTTG CCGACAGTG CTGCGCGCT	180
GCTAGTTCTG TAGCCACGC GCGCGTTAA TCTGGCCAT TAGTAGCCG AGCATCTGCA	240
CGACGACCG CGACTCGGC ATCTTCTGTA TTTGAGCAG CTGCGCTCG ACCTTCTGT	300
CTGGGTGCC CATGTCCCG CCCAGCGGT ACTGTTCTG CAGTCCAGG TCTGTCACT	360
ACCGTGCTAT TTGCGCTCG TTCAGCACTT CGTCATCTC AGCCACCGT ATTCCAGGA	420
GCTTGCAAT TCGCGCGGT TTCTGTAGGA GAACGTGTA GCGCGGATG ACCTTACGTG	480
CTTTGGATGG TTTGATTGCG GCGTATGTT TGACGGCGT CTGCGCGTA ATGCTTCTT	540
GCTTCTGCG CAGCATGTAT GAAAGTTAA CCGCAGTTAC TACTGGTACT AGATATGCCC	600
TGGGAATGCC ACCCGATGAC CTGCTGGTGT ACCTTGCTTT TGTATCAGG ATGCTTCGAG	660
CTGAATGTT GAAGAATTTC GAGTGAAA	688

## (2) INFORMATION FOR SEQ ID NO:646:



## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 712 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1433UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:646:

GATCACGGAA GAAGGCAAGG TCAAGAAGGT TACATTTGAT ATCGAGCCGT ACAAGCCCAT	60
CAACACTAAG CTATACAAGT GTGACAATAA GTTCGGGACG GAGGTGCTCT CCGAGCTGCT	120
GGAGGCTGAC GAGAAGTTGG GGTTCATTGT GATGGATGGT CAGGGGTGTC TTTTCGGTAT	180
GTTGTCCGGT AACACCCGGA CTGTTCTACA AAAGTTCACT GTGGACTTGC CGAGAAGCA	240
CGGTAGAGGT GGTCAATCCG CGGTGGTTT CGCCCGTTTG AGAGAGGAGA AGAGACACAA	300
CTATGTGGGC AAGGTGGCTG AGGTGGCAGT GCAGAACTTC ATCACAACG ACAAGTTAA	360
TGTTAAGGGG CTAATTTTGG CTGGTTCTGC GGACTTCAAG ACGGACTTGG CCAAGTCTGA	420
ACTGTTTGAC CTGAGGTTGG CAGCCAAGAT TGTAAGATT GTAGATGTAT CGTACGGTAG	480
TGAAAATGGT TTCAACCAGG CTATTGAGCT GTCCGCCGAG GCGTGGCCA ACGTTAAGTT	540
CATTCAAGGAG AAGAAGTTGC TCACCGAGTA CTTTGATGAA ATTTCCGAG ATTCCGGCAA	600
ATTCTGCTAC GGTGTTGACG ATACTCTGAA AGCGCTAGAT TGGGTGGGT GGAGAAATTG	660
ATTGTGTTT AAAATCTAGA GATTGTTCCG GTACGTGTTT AAGACTTCTG AA	712

## (2) INFORMATION FOR SEQ ID NO:647:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1434RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:647:

20	GATCAGATGC TTCTGTGGTC CTAGAGAAGA CTGCTATTCT TAACCTTCG TCAACGAATA	60
	TAGCCGAGGA CGAGTTTGTC GATGCCATAG CGGAACCTCC ATCGGCGTCC GTGGATAGTA	120
25	CGCCTTATGT GACCGGGGGG CGCGATTATT CCTCGGAAGA CACCGGGGAA CGTTCTGAAC	180
	CTACAATAAC GGAATACAAA ACTGCAATTG AATCACCATC CACCTTTGGC GACGATAACG	240
30	AGAGTGTATT TCTGTAACT TCTGGGAGC TGCATCCATC GGTTCTCTCT GCGAGTCAAA	300
	CATTAACAAC GGAAGACCTT CAAGCCGTTG CGAACAGCCA CCAATATAAG ACCGAGGTGC	360
35	AGATTGTAAA ACAAGACGAA GATGAAGTAG AGGATGTTCT AGAATTGGAC TCGCCACCAG	420
	CATCTCTGTA TGATGGTGAT GTTTTGAAGG AGCAGAGAA AATGATAGT AGCAATGTTA	480
40	TTCTTGATGA TTCCATAGAT ATCGATGAAT AACTCGATGA AACTTGGTT AAAAATTCA	540
	CATTGGAAAA CGCTCTTTCT TTAGATGAAA TCTTCGACCA TGATAATGTA GTTTTGGAG	600
45	AAGAGAAGCT GCTTGTTGAT CCAGACCTAG AATCCCGGA ATTAACTGGA ATGGAACAAG	660
	ATATGGAATC TGACTATCTG CCGCTGATTG AAAATGGTAC GGAGGCTGTT CTACAA	716

(2) INFORMATION FOR SEQ ID NO:648:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1434UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:648:

20

GATCAGGTTT TCCGTAAGT GAGAAGTAT CTAAGGCACA AAGGGCTTIG GCGACTGTG 60

25

CGGACGCTTG AGTTGCGAGA TACAGGACAA AGCTGTTAG GGGCAACTG GTGCAGCAG 120

AGCAGCCGAG GAGCGATTCT GCGCGAAGCG ACGGTGAATT CGAGCCAGCT GGTAGCAGGA 180

GTGCGGATC GTCTATTTAG TTCCGAGGG CGTGGGAACA GGATGCAGT AAAGTTGCG 240

GTAACACGG AGCTGAGCG GACGGCTGCT ACGCCGATG CAGGGAGCG CAAACGAGG 300

30

CAGCCGCTGT CGCCAGAGAT GTCTTCACCA CTGGCGGTA GCAAGCTCA GCGCGGAAG 360

CAGACACTG AGCCCGGTCC GGTGCGGCC AGTGGGACAC ACAAGGTGGA CGAGCTGCC 420

35

GCGCAGCTG AGCGCGGCTG CGAGCAGGCG TCGAGCGCA ACCCGCGTA CTGTATGCG 480

GTGCTGATG GGTGTGCGAT CCTACAGTGG CAGGAGGCA AGCTGACCTG TCGCAGATAT 540

40

ACCGTGGAT CTGTCTTTC TTCCCTTACT ACGGCTGTG TGACGCGGG TCGCAGAACA 600

GCATCCGCA CAACTTGTG CTGAACGAAG CGTTTGTCAA GGGCGCAAA TCGCTGATG 660

45

GCAAGGGCA CTCTGCGAG ATCAAGGCAC TGTGAAGCG CTCTCCGCG ATGGG 715

(2) INFORMATION FOR SEQ ID NO:649:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 538 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1435UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:649:

15	GATCGATGC TACCCGTGCG CCTGCCAACC CGTTGCGCTA GCGTTGACGC CTAGGTCTGA	60
	AACTGAACAA CAGGTGGCAT TGTGGGGGGG CCAGCAGGCC CTGGGGGAC CATGCCGCA	120
20	TGGGGGGCA ATAATACCAC CAGTTGTGAA GCCAGGTGT CTGTAATCTG CACCGAAT	180
	CTTTATCTAC CAAGGAGGAG CTTGAAAT TATATATCTA CCGCTCCCC TAATATATTT	240
25	GACCAATTGG CTCTCCGAA ACCGAATGAT CGAAGACGCC ATCAGGGCAG CGGACACCAC	300
	AGGAAGTGAG GAGTGATCTC GCAGGTACGA TGAAGCACA GTCTATACAG TCTATTGGT	360
30	CGAACCBAAG CGTACGGAGC ATCSCAGCA CGACCGGAAC CGCAGACGAG TCGCTAATCT	420
	TTGAACGGAG CGTTGAGGAT CGTTTGGCCC CGTGAAGGAC GCGAAGGGTT GCAGCCTGTG	480
35	TGGTGTCTCC CAGGCAGGGT CTCTGCAGC CGGGGTATCG GCGACTGGGG GCGGTCT	538

(2) INFORMATION FOR SEQ ID NO:650:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1436RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:650:

5	GATCAACCTC GGAAAGTAT TTAAAAGCTT GTACTCGACA TCATTAAGTC TTCTCCTCGT	60
	TTCTTTTGGT AAAGTATWAG CATCCAGTAA AGTAACAACG AAATGCAATG CTGAAAGATC	120
10	GTATACCCTA GACGACCTAA ATGGGGTATT TTGATCATCC ATACTAGCTT GAAGATCAAT	180
	GAAGTCAATA ATAGTGTGTA CAGACTCAGG GGAGAGTTTG GACTTGATGT ATTCTCAAA	240
15	GCCAGTCCAT CCCAAGCTTC TAGCACTAGG AGTAATCTTC AGGATTCTT TAAAGGAAT	300
	ACTTCTGATA AAATCTCTCA GCTTTTCTTC CTGCTAAAGG ATCTGTACAA AATTAGCAAG	360
20	CGGGTGGTA TCCTTGTTAA TTATGATTCT TCCAAGTCA ATGAGCTTGT GGTGGGGAT	420
	TTTCTTGATA AGCTCACCAA ATACCATCGG AGATTTTCTA AATACTTGA CCATTAGAGT	480
25	GACCAATAGT TCGTTAATAA TCGCCTTATT TTCAACCATA AGACTGAAAT GCTTCGTTTC	540
	TGAGATCAAA GTCAAGGCCA AATATTGGGG AACAATATTG TAATCATCGA AGAAACAATC	600
30	ATGGAATAAT TGGACATAG GACTGGAGCC AAATCTCTCT CTTGATAAGA ACAGTTCAAT	660
	ATCGAGCTTC GATACCGATG TGAGATATAA CAAGGAGTTC TTGAGTTTG GGAGTACTTT	720
35	AGAGACTT	728

(2) INFORMATION FOR SEQ ID NO:651:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 713 base pairs

(B) TYPE: nucleic acid

45

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1436UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:651:

```

5      GATCCAGAAG ATTATCCGAC AATATTAGTG ATATCAAGGC ACAGATCGCT GCCAACACTA      60
      GAGGTATTCA ATTGCTTAAC CAACTGGTTG ACGTTTTCGG TCTAGGGACT GTTACAAGGT      120
10     ACATGGACGC AATTCAAGAA AATGCAGCTC TTACTGTAAA GAATGTCTTG CGAAAGATTA      180
      CCAAGCATTT TGGCAAAACC GTCTATTTCG CCGAGGATTA TATGGATGAT GGCCTCTGTA      240
15     TAAAACTTAG GGTGGAGCTA AATGCTAAGG AAGATAAGTA TATTTTTCAT TTTACGGGGA      300
      CTCTCCACA GGTCACGGT AACCTCAATG CACCTGTTCG TATTACCAAC TCTGCCATCT      360
20     TATACTGCTT ACGTTGTTTT GTAGACGAAG AGATTCCGCT CAACCAGGGC TGCCCTAAGC      420
      CCATTACTGT TATTATTOCA GAGAGCTCTA TCCTATGGCC GACCAAGGGT GTCGGGGTAG      480
25     TGGGAGGTAA TGTCATGACG TCTCAGCGTG TAACTGACGT AATTCTCAA ACTTTTAAAG      540
      TCATGGGGA CTCCCAAGGA GACTGCAATA ACTTTACTTT TGGGACAGGT GGGAACTACG      600
30     CTCTACCGG TGAATATACT CAGGGTTTTG GATATTATGA AACCATATGT GGCGGCCATG      660
      GTGCAGGTGG AGATCATGGC GTGGTCCGGG GTGGCATGGA ACACATCTTG TTC      713

```

(2) INFORMATION FOR SEQ ID NO:652:

(i) SEQUENCE CHARACTERISTICS:

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40     (A) LENGTH: 587 base pairs
      (B) TYPE: nucleic acid
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

```

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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50     (A) ORGANISM: PAGL437RP

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```

55     (xi) SEQUENCE DESCRIPTION: SEQ ID NO:652:

```

GATCGCGCGC GAGCTATCGC TTCCGCGCGT CAAGCTGCAC TGTAGTATGC TCGCGGAGGA 60  
 5 CGCCATCAAG GCGGOCATCA AGGACTACCG CAGCAAGCGC AAGGCGACCG AGCTGCGCTG 120  
 AGCGCAGGCC GCGGAGCGCT GTGGGCGGCC GCGGCGCGCC AGCGCGAGAG GGAGTCCGC 180  
 10 GGGCGGCGCA GAGCGCGCCG TTTTCTATGT AGCGACTCKA GCATCTAATA GACATGGTAA 240  
 TAGCTTCTCG TTTTCTAGT TTGCACACAG TATACAAAAT TTTCACCGAG CTCATCGCCA 300  
 15 CTTCACCTTG CTGAAGCGCA GGTACGGCAC CAAGACCTCG GCTATGTCTT CCACTCTCTT 360  
 TGACGACATC TTCAAGATCC AGGAAGTGA CCAGGACGG TACAATAAGG TATCGGGAT 420  
 20 TGAGGCCATC TCCAAGTGC AGGACAGTGG CAAGCTGACG CTGGATGTGA ACACAGAGCT 480  
 CTTCGCGCTG CAACCACAAC AGCAGCTAAC GGTGATGCTG GCGACGACAC TCAACCTGA 540  
 25 CGGAACGGAG GACAGCCACG GGTCTGCGG GCTCCGCGC CTTGCGG 587

## (2) INFORMATION FOR SEQ ID NO:653:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 260 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1437UP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:653:

50 GATCGGCGCG GACCGCTACA ATATTCCCAT ATGTATTAYA GGCAACTTTA TACCATCTC 60  
 CTAAGTGCAG TACGTACTGT TTGTCACTCT AGGCTCTCGC TCGGGTGAG CCGGTGTTG 120  
 55 CGGTCCACA GCGCGCGCAC CCGCGCGCCG GCGCGGAGT GCAGCGCGGC CGTGGCGGCC 180

GGCTGCACCG CGGTGCGGCA GGCTGCGACG AACTGACCA CGTTCGTCT CGACGCCACG 240

5 AACCTCTCTCA CGGCCAAGTC 260

(2) INFORMATION FOR SEQ ID NO:654:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 728 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## 20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1438RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:654:

GAATCTTTTT TAACGGCTGT TACCAATAAC GATACCGCAG CTACATCTGG AGAATAGTCT 60

GCATCCCATG CCTCGAAGTT CCTGTGAACA TACTCTGGG GATCGACCTC GAAGCTCTCC 120

AAGGTCCTTT CGCTAGGACA AAGAAGCGG AAGATAACAT GTTCCAAAT GGTTCATAA 180

35  
TGTTGGGTCAA CTATCGGCA AGTAGACTTT TGGACCACTG TTTGTTCAT GAATCCAAAT 240

ATGTAATATA GCGACTCCTT GCTTAACCAC AATTGGCTG CACCCACCT TTCAATCTGC 300

40  
TGGAATGCA ACTGCAATAG TTGCGGCAGA AACTGCTOCA CATAAGCAT TTAAATTC 360

GTGTACTCAA ACTTTTGTCT GAGAGATTCT GAGGCATAAC GTTGGCAATAA TCGATACATG 420

45  
T TAGCATATG CCCACTTTTT GGCTCTGACC CATGGATGCG CCCGCCTATC ATGACCGGCC 480

AGGGCATCA CATGCTCGG CAGCTGGCTT TGTATCAG AAACATGGAA GTTGGCCAC 540

50  
GGATGAAGT TTTCGACCG TTGGAGAGTG AACGGCAGT CATTATATGT CACAAACTTG 600

TAGATCTTCA GCACAAGCTT CAAATATTC CCCACGATCT CGTGTGCTT TCTGTGCTGT 660



ACAAAAGCGC GTTTCGGTAG TGCAGCAAGT CTGGGAAATA TCTCATGATC AGCATCTCCA 720

GCTCCTGA 728

(2) INFORMATION FOR SEQ ID NO:655:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 774 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1438UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:655:

GATCGGCAAA OCTAATGGT CTGGACGTAA TGTAATCCAA CAGCGACTGT AGAGCTGCTT 60

GCGGTTCTCC GACAGAAATC AGCTCATCTG CCGCTTCAA GCGTTTICA GGGCGCAAAA 120

CAGGTGGAGC CATGCTGAAT TAGAGCTATT TGGTGAOCTG TTGAGTAGT GTGGACTTCC 180

TTTGAATGTG GTGACTTTG AAGTAGGTTA TTCAACTAGA AAATTTTICA CCCAGAAGGA 240

TGCGCTCTAT CAGCGGCGGT GTCTGACGAT GATCTCAACC GCGTAAAGGA CGAGAAGTGG 300

TAGGTGAGT CTATCTACT ATTGGTACTG ATGAACGGGA CTGGCCAGCT AACGTGAAGG 360

CACGTCTGTC GGGATGAGGC CCCAGCGCCA GCGCACGGGC CCTGGGATGA GCACAGGTTC 420

CCTGAGAGG ATTGCGATCG GCTGACGGGA AGCCAGGTTC CCACAGCGTT GCGGACTG 480

CGTCGTCAGG CTGGAAGTGT AGAAGGGTTG TCTTGAGCTC CGGCGACGGC GCACGCTGCC 540

CAGGTAGCTG GCGGCGCTG TTCTGCGGC ACAGCGGTGG GCTCGCTGTC ACGTGGCATC 600

GAATATGTCA CGTGATTACA CCGAGCAGGG CATCGCAGAC AATCGGCAAG CAGCAACAGG 660

AGGAGGGTGT GATCGGTGT GTGCGTTTAA GAGTATGTGA GCTGTCCAGC TGGCTCCCCA 720

5 TCTCTGGGTT TACTCGTACC TGTGCGTTA TATAGGCATT GCCAAAAGGT TTCC 774

(2) INFORMATION FOR SEQ ID NO:656:

10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 728 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1439RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:656:

30 GATCGTGTG GAAGTCTTGC AAAGTGTGG TCACCCCGAC CAACTTCTCC TCTGTAATAC 60  
 CGCTGTACTT CGTTAAGTAG TCCACAATGG GCTCATCTGG CTTGACAAAC TTGTCATAAA 120  
 35 CTAAGTTACA ATCAAAATUG ACCAGGCTCA CACCGGTCAA CAGTATCCG TTTTITGAAA 180  
 GGCACATCTC ACAGTCGATG GCAAACGTGT GAGAACCGTC GTGTTGGAAA CTGACAGTGT 240  
 40 CCACCCACCC ACTGTACTTC TCCTTATCTT GATACTTTAG CAACAAAGCC TTTTGGTACT 300  
 CCTCCGATAA GCCAGGTGTG TTTAGATGGA TGGGTACTC ATTATGCAAT AAGTCATCAA 360  
 45 CGGTCAITAG CAAATCAAGC AAAGTGATTT CCTTTTGTG CAATGTGTC ACCTTTGGCA 420  
 TCTTCTCCTT TTTTGACAAG CCTACATTGA CAAAAGAATT GTATGCAGAA AATAGGGAAT 480  
 50 TCTTTGATCC CGGCGCTGAT AACGCCAAGA TACACATTTG CTTGCACATC TGTTCATTTT 540  
 CACTAATCGA GTTTAGATGT GCGTCTTGCA ATTTCGGAAT ATTTTATGA AACAATGAAT 600  
 55 CCTTCGGTAG ACTGAAGTCC TCGGTTAAAA GGCCTGAGT GAATAAGAG ACCACCTTCT 660

TCAAAGAGGC CTATTTTCTA TCGTAATCCA GTTGGGAGAG TTGTTGTAT CGTGGATAT 720  
 GTACTGGA 728

## (2) INFORMATION FOR SEQ ID NO:657:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 694 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1440RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:657:

GATCTATTCT TCATTGAGCA ATCAACAAGA GCTGGTGAAA CTGGGGCAAG AAGCTGAGCA 60  
 AAGCGGTAAA TACAACITGG CATTCATGC ATACTGGATT GCAGGAGATA TCAACAAGGC 120  
 CAGGGACGTG CTITGGAAGA GCGGACGACA TTGCGAGGCT GTGCTTCTGG CATCCACATA 180  
 CACCTCAGAC AATGACGCCA TCAACGCTGC TGTAGAAAAA TGGAGGAAC AACTGAAGTC 240  
 AGCTGGAAGA GATCTATCG CAGAAAGAAT TATACTTTCC GGAGAGAGC ACTTCCCTGC 300  
 AGCTCCCGAG ACTTTGGTGG AAATGGATGA CGGATCAGAG TCCGCGTCTA AATAAACTAT 360  
 AATTTTAAAG ATAACAGCAG GAATAAATTA ATTACCAAGA AGGAAATTTG TATGTACATT 420  
 CTAAGTAGAC CCAATGGTAG AATTTCAITG CGTAAACAG GCAACCTTAT CAATATCTTT 480  
 CCGTTTGTC AGTCGACAA AGTAAAGTTC TTGGATTCA GATCGGCATG CTTCGGCTT 540  
 AAAACGCGC ACTTTGGTGA ATACCTTTCC CAGACGCGT TCTAATAGCT GGTCTTCTT 600  
 GCCAGTGTAT AACTTGCAA CGAATGAGC ACCGGGCTC AACATGCAA TTGCACATAG 660

CAGTGCTGCG TTCACACAAG TCATCGACA TGTA

694

5 (2) INFORMATION FOR SEQ ID NO:658:

## (i) SEQUENCE CHARACTERISTICS:

- 10 (A) LENGTH: 712 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

15 (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- 20 (A) ORGANISM: PAG1440UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:658:

GATGCTACAG AAATAATCCA GTACAAGGTA CCTCTAATCT ACTGTGTAA CATGGAAAAC 60  
 ATTTGGCCTT TAGGCTTTTT CTTTCACCG AAAAGGTAAC GTGTUGAAA CATATATCAC 120  
 GGGTTCGAAA CTGACTAAGG TTGCTCATGC CTAAACGAGA TAGGCAGCAA TGGCAAGGGG 180  
 CTTGAGGTGG TACCAGAAAA GCTGCCAOCCT CCTGCTGGGT GCTTACTCTC GCAAACGGTG 240  
 TATACTATTA GTGTGGAGT ATTTATTGCT TATTAAATAA CCGAATTGTG GGCTAGAAG 300  
 TGGGATTAT CACTGAGCAG CAGCGGCTGG CAGCCAGAC TGCTCGGAA GCGAGCAGG 360  
 TCGTTTIGAG GCAGGTTTA GAGCTGCAGC CGTGACCATC AAACCTGGC CCGGAGGAC 420  
 GAGTATGAGG GCTAGCTCGA GGCGCATCAA GAGCTTCTTC GATATGCGC AGACCTTGCT 480  
 GAAATACTCG TGGGAGTCCA CCGTGTCTTC CACAATCTTG GTTGAGACAC GTATCAAGGC 540  
 CACTATGAAG CGATGCACAT AACTCTCGGC GATGGGCCAG CGGATCTGCA CCGACCGGT 600  
 TTTCGAAGGA GGCAATTTTA GCGTGAGGCG GAGTAACAAG CAGCCCCGGG TCTGGTAGAC 660  
 55 TATGGGCGCA AACATGCATT TGGGTTGAT GCGTCTAGG TACTGGTAT AC 712

## (2) INFORMATION FOR SEQ ID NO:659:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1441RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:659:

GATCGTTAAT TGTACCAAC GAAGACCAGA GATGGTCTAC CAAGGCCGTC TAGGACAGAG 60  
 CAGCAAGCA GTCCGTCCCC AGGAGCAAC CCCCAGGAC AGACCAACAG CACACTTCCC 120  
 GCGTCGACC AAGGCCCTCA CTACCGATC CTTAGAGCCA ATCCTTATCC CGAAGTTACG 180  
 GATCTATTT GCGACTTCC CTTATCTACA TTATCTATC AACTAGAGGC TGTTCACCTT 240  
 GGAGACTGC TGCGTTATC AGTAGAAGT GGCATGAAA CTATTCCTTC CTGTGGATTT 300  
 TCAAGGGCG TGTAAAGGC ACCGAGCCA GCATAGATC TGGGCTCTTC CAGCCATAAG 360  
 ACCCATCTC CGGATAAAC AATTCCGGG TGATAAGCTG TTAAGAGAA AAGATAACTC 420  
 CTCCAGGGC TCAAGCGAC GTCTCCACAC TCAGTTAAGT TGGGTGAAG AATCCATATC 480  
 CAGGTCCCG AATAPTAAC GGAITCCCTT TCGATGGTGG CCTGAAAAT CAGCCCTTTG 540  
 AAACGGACTT CCCCATCTCT TAGGATGAC TAACCCACGT CCAACTGCTG TTGACGTGGA 600  
 ACCTTTCCC ACTTCAGTCT TCAAAGTTCT CATTTGAATA TTGCTACTA CCACCAAGAT 660  
 CTGCACTAGA GCGGTTGGA CCGAGCTTTA CAGCCTAGGG CTTGCTCACT GA 712

## (2) INFORMATION FOR SEQ ID NO:660:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 718 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1441UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:660:

20	GATCCAACCG AACCTTTCCT TCTGGCTAAC CTAGGTACT TGTACTCTAG GCGAACCAGG	60
	ACTTTTACTT TGAAAAAATT AGAGTGTCA AAGCAGGGC AAGCTGAAT ATATTAGCAT	120
25	GGAATAATGG AATAGGACGT TTGGTCTAT TTTGTGGTT TCTAGGACCA TCGTAATGAT	180
	TAATAGGGAC GGTCGGGGC ATCAGTATTC AATGTGAGA GTGAAATTC TTGGATTTAT	240
30	TGAAGACTAA CTACTGCGAA AGCATTTGOC AAGGAGTTT TCATTAATCA AGAACGAAAG	300
	TTAGGGGATC GAAGATGATC AGATACCGTC GTAGTCTTAA CCATAACTA TCGCGACTAG	360
35	GGATCGGGTG GTGTTTTCTT ATGACCCACT CGGCACTTA CGAAAAATCA AAGTCTTTGG	420
	GTCTCGGGG GAGTATGTC GCAAGGCTGA AACTTAAAG AATTGACGA AGGGCACCAC	480
40	CAGGAGTGA GCTCGGGCT TAATTTGACT CAACACGGG AACTCACCA GTTCAGACA	540
	CAATAAGCAT TGACAGATG AGAGCTCTTT CTTGATTTG TGGTGGTGG TGCATGGCCG	600
45	TTCTTAGTIG GTGGAGTAT TTGTCTGCTT AATTCGATA ACGAAGGAGA CCTTAACCTA	660
	CTAAATAGTG CTGCTAGCAT TTGCTGGTIG CGCACTTCTT AGAAGGACTA TCGGTTTC	718

## (2) INFORMATION FOR SEQ ID NO:661:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 722 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1442RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:661:

GATCAATTGC GTCTTCATCC GATGAGACAT TTTGAAAATT GTTGGAAATAT TGGGCAACAT	60
CAGGGTATGG TAACACCTCC GGTTCATAAC TTCTAATCGG TAGCCTCGTC GCGCGTGTA	120
CGCATGGATC ATCAATGGAC GGTGCTGGGG GCGATCTAGA CACGCCCCGAA TTGGGGCTTG	180
GTGTGAGGTT TTGTCGGGA CTCTCACTT TATCAGGTAT GACTATCACT TGATGATCA	240
TTAGATTCCG TGTATCCACA ACATGGACGT GCGTTTGGTG TTCGAGATA AATAGTAGGT	300
CATCAAACGA GCGGCTAAAC TTGCACACC TAAAGGACC GTTCTGTGCA TGTCTTOGAG	360
TTGAAGGTAT CTCGCAAGA GGCGTGCCA TTTTCTCAT ATGTACACC AGACAGAGGC	420
CGTTTGGAA TATGTAGCC ATGTGACGT CGTTTTCGCT ATAGCTTGIG TAAAAGCGGT	480
TATCACCACC AGGGAATCG TAAATAGAT CTAGGACTTC GGATCTATCG ACCGCGGCAT	540
ACCTTGGAAC GCACTTTGTG CCGGACCATT TTGAACCCA CTCAGGAGCG GCGTCATATT	600
GTAATGAAAA ACAACCGCTT AGTTCATCTG TCTATAGACC GCAAACCTGC TGGAACTTCC	660
CGAAACCACC ATGCTCTTCC CATGCTGTGA TATTGCCGAG CAGTTTAAAG CAAATTTTAA	720
GT	722

(2) INFORMATION FOR SEQ ID NO:662:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1442UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:662:

GATCAAGGCT GGGAAAGTGG CGTTGACTGG CTTGCCCTGC GCAGGCTCTC TGTTCGCGCT	60
CTTGGCGGCT CTGTTCGCGC CCTTGGCGGC TCTTTGTGTG TCTCTCTGGT CGCGAGACTT	120
AGGAGCAAAG GACTGGGTGC CATCAAACTC TAGGAACTGC TTGGCCTTCA AGTGCTTCGT	180
CTTGACGTTC TTGACCTTGG TAGCCTCCAT GAAGACCTCC TCCTTCTTAA CGAACAACTC	240
AGCGTGGTGG AACTTCTCGA CCTTTCCTGC GACAGGGGCG TGTTCAGGT CGGAGTTCTG	300
CTCTCCAAG TAGCCTCCA AGGTGACGGC AGCTGCAGTG GCTGTCTCT CCTGGGCAGC	360
GTCGGCGGCC AACTCGGCTT CGGCAACAGC GGCACCAGCC TCTCATCGG CCTGCTCCTT	420
CTGTTGTGG CCCACGGCT GCTTGATCTT CTTGGCAGAG TCAGTCTTGC CGTTTCTCGA	480
GTGGGGTCA AAGTCTTTC TGCTGTCTT GCTGGCTTG CCTGGCGCAA GAGGTCTCTT	540
GGACTTGTTC TCGAACGGC CGGCTGCTT GTCTCTGAAC GCAGCTTGT TCGCGGTGG	600
CTTGGTCTG TTGTCTTGG CACCGATGG GTCCGCAGAT GGAGGAGCA CGTCCGCTT	660
CTTGAAGAG GTGGTCTCT TCACAAGCTC CTTTGGAGGA GACACAACAA CGGTGGCGTC	720

(2) INFORMATION FOR SEQ ID NO:663:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 716 base pairs  
 (B) TYPE: nucleic acid



(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1443RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:663:

GATCTATGGG GTGCTGTGGG CGTGCATCGA CCAGCACAG AGCTTGAAT TCGATAGCG	60
GAGCTTCTTC TTTCAGTAGG TCGAAGGCAT CTACTGTAC AGGACTGGA GCCTTCTTGC	120
GGCTATCTG CGGAGGCACT CCGTGGGAC GGCCAGCCAG TACGCCAGG TCTTCTAGA	180
CCGGCGGCGC TGGCCAGTC AGGCGGAGG GCTGCTGCTG GGCATAGTTG CCGATGCGA	240
CCCATGCCAG CCGCTAGTGC AGGAGTGCAA AACGAGTGGA GCGTGACAT CTGCGAGCTT	300
CTGCTTCTC ACAGAGTGCC TCGACATATA CCTGTGTTAT GTGAACGATA CCGTTTGTCT	360
GGGCCCCAAG AGCAACTTCC CGCTTGAAGA TCTGTGGTG TTTTGCACT TGGTGGTGA	420
CGGATATCT CAGGCTTTC GTGCTGAGCA TGATTATGAG GTGAACAAGA TGGCGCGGC	480
GCTCTCTTA CTCAAAAGC TGTATATTAG GGATAGAAGG ACCAATTTCC TCTCCGCGC	540
CAAGGGGAC GACTTCTGG TCATTGGGA TACCAGGTG AAAAAGTGG ACATTACATC	600
TCTCTTCTT TACTTTGATG AGTTCTACAG AGAACAGTTG GATTGTTC TGGGCGAGG	660
CCGTGCTCG CACGAGGTCC CAGCGCGAT CTGTAGCGT GGGAAAAGA TATAAA	716

(2) INFORMATION FOR SEQ ID NO:664:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 711 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1443UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:664:

5	GATCGGGCAT TTACATCTGA CATGTAACCG GGTGGTCTTG TAGGTAGGGT GTTCAATGTA	60
15	AACTGGTCC AGTTGGAAGT TGGGTAGTA CTAAATTGGA ACCCGGTGG CGTGGTGA	120
20	AGATGGCCAT CGTGAAGTGG TTCCACAAA CTATTGTTT CACCTGGGA TACTTCATCT	180
	TCATAACTGC TTCTAACAA TACATCTGG TCATAGTCTT CGTAGGCTGG TGGAGGCAGC	240
25	TTCAATCCGT TCAGCTTGC ATATCCCAT TTCTTTAGT TTGCTTCAAT GTAGACGAAT	300
	CGGTAGGTCC CGAAATTAAC GTGTATCTTG CATGGGACAT TGGACCAAC AATCGGTAA	360
30	AGATACTTAA TTTTCAGCC CTTTATGTGG CCAACAATGC GTTCTCAIT TAACTTCTTG	420
	CCATTGCGCG TGAAGAAAAC TGTGCGCTC CGAGTTCTGT AGCCAATCCC GATGAGTGG	480
35	CCCTTTTGC AGCGGGGAA TAGTGAAGAG AGTTCTGGG GGAGCTTAA CGAGTTGTTT	540
	AACTAGGTG CTCCATTAGA GTCATATGCA ACTGAGTAT GGTGTCTGCC GGAAGGCTA	600
40	AAATAGGGAT ACGGCGATGT AGCAAGACCA AAGGAACTA TTGGTTTTT TGAGAGATGG	660
	CTGACCGGC GGCCAAGCT GTCACAGAGT CGAAGATCTT GCACTCGAAG T	711

(2) INFORMATION FOR SEQ ID NO:665:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 736 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1444RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:665:

5			
10	GATCTGCTTT TATAGGTTCA CGAAGGGACT CTGGAGGCG ACCCTGCTGA AGTGTGCCAA	60	
	CATGCTGTAC TTGTGGGCG TGATGCATTT CTACGACGAC TACGAGCAGG CGCCGCTACT	120	
15	GAAGAACAAT GGGTACTCGA TCTTTATTCT GAGCATGGG ATGAATCAGG CACTGCATCA	180	
	CGGCGGGCGG CTATTCAGGG GCGAGCGCG GCGGCGTCC TGGTGGTGGC GGTCCGACAC	240	
20	ATTGTGCTG CAGCCCGCAC TATATATCAG CCAGTCTAC CTGCTGCTAC TGAATGTACA	300	
	GAACCCGAGC TTTCATTGGA CGCCGAGCT TGACATAAT AATCGCAGG TCGTGGTGGC	360	
25	CTACGTGCCC CTGGGCTTC AGTGTCTTCG TGGCAGCTG ACGAGCTAAG TCACTGGGGC	420	
	AGGAGCTGCT CGTGAGCTC GGTGCTATG CGTGGGGGT ATTGCTCAGC GGCATGAACA	480	
30	TCGTATCTCT CTAAATAGCG TTCTCTAGCT TCGTTAATCC TGGTTACCAC ACTGTGAGC	540	
	GGTATATCTG CCTGCAAGGG ATCCAGCTCT GCGAAGGCTG CAGCGGTGGA CGGTGCATA	600	
35	CGCAGCATAC GCTGGCTCCA GGGATGGAT ATCCAGCAGC TGGGCGACAC TTCCCGCCCC	660	
	TCCTGTCCC CCAGCTGTT TGTGCGGCGC TCGCGCCATC TGAGAAGCGC ACGTGTGCA	720	
40	CTTCGAGGGC ACGCTC	736	

(2) INFORMATION FOR SEQ ID NO:666:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 709 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1444UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:666:

5	GATCCAAATA CATCOGGTAT ATATGCTACT TGTGOCAGAA GACATGAAAA GCAAGCATCA	60
10	AGGAGCTAA TGAGCATTCT ACAGGAAAAG GCGGAAGAAT ACTACGTTGA TGAACTCAAA	120
15	GCTATGCGAG AGACTGAACT CTTGAGOGAC AAAGAAGATG AAGAAGAACT ATCTGTGGAA	180
20	GAGCAGGTGC AGAAAGAGCT AGACCAATTG AAGAAAGGCA GTGGTCTGTG GGATACCAAA	240
25	AAGAAACGGG TCTTGCAAGA GATTCAATTG GGATGIGAAT GTATGGTCTT CATCAAGACT	300
30	AGAAGACCAA TCAAGCCGGA ATGCTTTGTC AAACGGCTAG TACAGGAACT TGCATGTC	360
35	GAAAATACTA CCAAGGTTTC GCGGTACGTC CAGAGATTGA CACCCATCAC TGATTCTGTC	420
40	AATGCTAGTC TAACAGAATT GGAAAACTC TGCAGAAGGG TGCTTGCTCC TCATTTCAT	480
45	ACTGACAAAG AGATAAAGTA CAAGTTCCGC GTGAGGTGG TAAAAGTAA CTTCACACG	540
50	ATAGACAAAA TGGATATCAT TAACTTGTG GCGAAGGAGG TGGTAAGAG TGGGATTGG	600
55	GGGCACTCTG TGGACCTAAA GGAATACGAC AAGCTGGTCA TGTGTCAGTG CTATAAGAAC	660
60	AATATCGGCA TGTCTGTGGT GGACAAGGAT TACTCTGIGG CTCTTAAAA	709

(2) INFORMATION FOR SEQ ID NO:667:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 717 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1445RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:667:

10 GATCATCTTC CGACATACT CGAGGAGATT CGCGTCCGG AAGTTCTTGT ATCGTTGCAT 60  
 GTAGTGGAT TGCTCGTAAT CGTCTGTAA TAGAAAATTG GCGTCAATCA TGTGTGCCCC 120  
 15 GTTGGACCGG CCGGAAATGA ACATGAACGG TGGCAGCCCG TAGCGACCT TCTGCCCCCG 180  
 GCACGCGCGC AGAATGGCAT CGTTGGTGCG CAAAATATCG CTGTACGGGA CCGCATCTT 240  
 20 CTCTTCTTGG ATGGGCTCCA ACACCGCCAT CTTCAACAAC TCGCGCCCAT AGCTCATCTC 300  
 CATCTCCCGC GAGAGGAGAT TGTAGTGGCG CTGGGGGGCG CGACTGGTGC CGACTGCTC 360  
 25 CGAACGCAGC AACGTGAGG TGCTATTCAA GCTAGTGTIT GAAAAGTGCA CATGCTGTC 420  
 ATACGAGGAA CAGCTGAGCG CCATCTCGGT CACGCTGAGA AGGTACTGTT CTTCCCGGT 480  
 30 GTACAAAGAC CCGGCTTGT ATGTGAGGC TCTGGTGCAT TCCATGGTG TCGCATTGC 540  
 TCTGGCGCAG CCGTATACAC TCGCGTCCA AATACTACCG CACCACCGCA CGAAGGACCT 600  
 35 TTCCGCCATT CTTTGGTITT ATAAAACCG ACTACGATA TATTTCATCC TGCTCTGGCA 660  
 TGTCCGATG CCGTCTCCG TGTGACATAG CTGCTTATTC ATCTGGGGG TTCATTT 717

40

(2) INFORMATION FOR SEQ ID NO:668:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 717 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1445UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:668:

5 GATCCTTACT GACGAGGAAG AATCGAGCAA TAAAGTTGAC GCGGCTTGA GCTCTAATAG 60  
 CGGTAAGAGC ACCGCTAGTA AACGTCCAGC CAAACTAGG AAGCCTAAGG CTGACACTGC 120  
 10 GCGTAAGAAA AKCGGAACCA CCTCCGGAT GCCAAGACT GCTGCTTTGC AGGCGTCTCT 180  
 GAACAAGAAA AGGGGGGCTT CGGCAGAATA GACTACTGCT AAACGTAAGT AATAGTATAA 240  
 15 ACTTGGTTTT TTAATCCCTG GCTATCTCAG ACTGCTAAAG CATGGCGTT TAGGTGTGOC 300  
 CTCCTGGTA GATGTTTTGC ACCAGCAAG GTGAAAAAA GATCAACAAC CCTGAAAAAC 360  
 20 GTTTAACTACT TGTCAATCTC TAAAGGGCT GCAATCAAGG CATATTACCA TTGTGGAGCC 420  
 ATGAATCTTG CCAATGAAC GAAGTTCCAA ATACAAGTTG ATGAAACAGA GGATACAGAG 480  
 25 TGGAACGATA TTTTGAGGCA GCATGGTCT ATCCAGAAC GCGCACTTC ACGACCGCA 540  
 CAGCTGAGG AAGGCTTGA GGAAGTGCTA CAGAGCCAC ACGAGATAG ATTAGAGAAC 600  
 30 AAAGACTCTC TGAAGTGAG GACTCGAAGA TGAAGAAGT CATGAATTTT TGGAGTTTTA 660  
 CCAACGTAAG AGAATGCCAG AATGCAGAA GCAACAAAGA AGCGCAAGTA TGGGGAC 717  
 35

## (2) INFORMATION FOR SEQ ID NO:669:

## (i) SEQUENCE CHARACTERISTICS:

- 40 (A) LENGTH: 775 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 45 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- 50 (A) ORGANISM: PAG1446RP  
 55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:669:

5 GATCTGCAGG CTGCTACGGA GGAAGTGTG TCGAGGTG CTGGCTGAG TAAAGACCA 60  
 AACTTTCCTA GCATTTTCGC GCAGGAGCTA CAGAAGCTTA CTGGTGAGCC CCATATAGGC 120  
 10 GGCAAGGTGG ATGATATAAC GGTAGTGATG GGAAGGTAG ACTAGTAGAT TGCACATATG 180  
 TAGAATTACT AATAATCATC GAATTTCTGG CTTAAGACAA TGTCTTAAT CCGCTCTCTC 240  
 15 TCGCTCTTCA ATCTCTGCTC GCGTTCTAGT AGTCAATGAA CAAACTTGAC GTGGGTGGCC 300  
 AGGCATATCG GCGGAGTTG AGTCCGCTTT CCGATTTC TGAGAAAGT AAAGGGCACC 360  
 20 TTACCGCTT CGACTTTTGA TGACAGATTG CTGTTGACCT GTGTGCTGGT CCAGATCCA 420  
 ACGATAGGAA TGTGTGTCAT GGGGATTTT TCATTCTTC GGGATTCTAA AGATTGTTGC 480  
 25 ATCAGAGCTT GGTACATCTT TTCAATTTCA TCTCTGCTC TCGCTCTCTC CTCGACTTT 540  
 AGCTTCTTT CGTATCTTC GTTATCTTT TTGGCTCTA GATCTCTGC AATAGTAAAC 600  
 30 ACGTCTGTGT CGTGTGAGT ATCTTCTTCA CTTCCTGCT TTGAGGCGCA ATCACTATCG 660  
 TCGTATCTT CATCGTATC TTCTCTGAT AAGTCTATT AAGTCTCTT TCTCTACCT 720  
 35 CGCTGGAGTC GGCAGTGTCT CCACTACTAG ACTGTAGCC ACTATCTTCG TCCTC 775

## (2) INFORMATION FOR SEQ ID NO:670:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 631 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 45 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1446UP

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:670:

5 GATCAATTAC ACTACTAGCA ATCTACTTTT CAACAATCTG ACTGTCCGGG AGGTAAACT 60  
 CTACCGTGAA CAGCTGATGG TACTCAAAGA GCAGAGGTTT ATAGTGGAGG GCATGCTCGA 120  
 10 GAACGCCAAG AAACAGCGGC GTTTTGAAGA GGTAAATACG TTAAAGGAAA ATACCAAAGA 180  
 GCTAGACAAT CAGATAGCCC AGCTCGAAGA AACCTAGGC GACCAGGGTT TIGTTIAGTA 240  
 15 TCTAGCATGG AGTTTTTTCG TTAATAATAA TTACTGTGTA GATGCCGAG ATAGCATGTC 300  
 GTAGCATAAT TCGAATTTT CACCAACATG AAAAAGTGTA TGTGTATAAG GCATCCAGTG 360  
 20 AACTOCTAAC ATGCTGATGA GGTTTTAAGT AAAGATATCA CTAGCAATGA ACGTAAGTGC 420  
 AGTTTTTGAG CTTTATGTCC TCTGTAGAAC ATAATATTAA CGACAGGGGG ATAGGATGAA 480  
 25 AGAAGACAGC AGTTATTTGA GCTGAACAGT GAAGCTGGT CTGGAATTGA TGCGTTCCCG 540  
 AATAAAACCA GCAAGCTTGA CTCAAGCATC AAGAGAAACA CAGGGTTTAT CAAAAAGCTG 600  
 30 AAACAGGGTA TCACGAAAGA CTCGAAAGAT C 631

## (2) INFORMATION FOR SEQ ID NO:671:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 40 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

45 (ii) MOLECULE TYPE: DNA (genomic)

50 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1447RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:671:

55 GATCCAGGAT GATGAATTTG ACGAGGAGGG GGGTGCAGAA GAGAATGACG ACTACTCAGC 60



GTTTAAAGA TCCTGCATGT CCTCCACGT CCCCCTGTG TAGTAGGCAT AGCGCTGTG 120  
 5 GTACGGGGCG TCGGCATGG CCGCGGCAT GGGCGGGGC CCATCGGCC ACCCGGTGGC 180  
 GTACATGTGG TACATCGGC GCGCGACGC GTCCGAAAGC AGCGGTAGG CCTCGTTAAC 240  
 10 CAGCTTGAAG CCGCGAGGC GTTGTGCTC ACCAGCCCC TGTTGGGCG CCCCCTCGT 300  
 GTCCGGTGG TACAGCTTG CGAGCTGTG GTACCGCTC TTTAGCTGC GTGCATCGAC 360  
 15 GCGGTCTTC ACCAGTCCA GTACCTGTA GGGGTGGC TGCTTGGCT GGGGACGA 420  
 TAGCCCCC TGGACCGG CAGCGTGT AGCGACGC ACCGTACTC GACTGACG 480  
 20 TGTAAGGAG ACCGCCAAG TCGCCAGTC CTGAGCAGT CAGTCGAC CGACAACATA 540  
 AACTTAAGC TCCTAGTTAA CCTTTGGG ATGAGATCT TGTCGGTGA TGACATATC 600  
 25 CAGGAGCGG CTCGCTCC GCTGACTG TGGCGTCA GCTCCAGTT GCGCGCTTA 660  
 GGCATATGG CGAAAAATA AAGTCTGCT CGAGCGGGA TGA 703

(2) INFORMATION FOR SEQ ID NO:672:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 684 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1447UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:672:

GATCAGCAG AGCTCGGC TGGCTGTGG AGATGACTG GCTTTGGG GCGAGTGGC 60  
 55 GGCAACGCG CCGCGGCG AGACGGGCC GCGCGGCG CGTGGGGTA CATCGCACC 120

AGGTTCTGCA GCTCAAACCTC CAAGGCCAGC TTGTTTCTGT TCTTCTTCCG CTTCGGCTTG 180  
 5 TACTTGTAGC CCGGGTACTT CTTCGGGTGC TCTGCTKCT CCAGTTCGC CTGTGCTGC 240  
 CACTCCTTCT TCTCTCCGC CGTCAGTTT TTCCACTGGT AGCTGATGAT CTTCCTCACC 300  
 10 TCGCAGTTGT GCGGATGTC CTGGCCGAC TGCTTCAGT AGTCTGTGAG CAGCTTCTGC 360  
 TGGTGGACC GGAACAGGAT GAACGGTTG CCGGGCCCG GGATGTGCTG CTTCGCTTG 420  
 15 TAACCAGGC GCGCCGCGG GCTCGCCCG CCTCGCGTC CTGTCCGC ATCTGGTGC 480  
 GCTGCCACTC CTGCGCGCG GCGGCTGGT GCGAGAAAA CTTCGTGTC AGAGCCCTG 540  
 20 CCGCGCTGC GCTGGCTGC CCGCTGCTC GCGCGCTG CCGTTGCTT GGTGTGTA 600  
 AAGCAACAA TTCCCGGAT CTCGCGCG TGCTGGCGT GGTGTAGAT CCGTGTATG 660  
 25 GTCAGCTTCT GCTCCAATCA CAGA 684

(2) INFORMATION FOR SEQ ID NO:673:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid  
 35 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1448RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:673:

50 GATCCGCTAC GTATACAACG ACATATTGCT ACGTATCGAA TGTGATGTGA CAACATGCAA 60  
 GATTCTCAAC AACAGCCCA AGTGGTTTAG TGGTAAATC CATCGTTGCC ATCGATGGGC 120  
 55 CCGCGGTTG ATTCCGGCT TGCGCATATT TTTCACAACA TGACACACT GTGTGGCTAT 180

CGAGAGGGAG TCCACTACGA GCATGTCAT TTTTGTCTAT AATTTACAAG CATATGTGTA 240  
 5 CTATGTGTGC ATTGATCTAA ATGTGAGATC GATAGAATCC TTCAGCTCCT TGTAGCTAAT 300  
 GATAATGCAG TTTCATCTGT CCGTGTGCAC CAAGATTATC TTTTCAGATA CGCCGGTGTG 360  
 10 GAGTTTGTTC AGGCACCGGA GTACGTGGGT GAGGTCCATC ACGGATTTCG CGTTCTGTTC 420  
 CACCTGGTGG AACACGTAAT CGTAGAACAG AATGATGGGG AACTTGTCCC CCGGCTCAGA 480  
 15 CCAGTGGATG TCCATGCTGG ATTCCATCCT ACCAAGATG AAATTTAGCT TGCACATGAG 540  
 CCTGAAGAGC CTGCCATTCT CTAACTCGCG CGACAAGTGC TGCTGATGTT TCTCGAGTA 600  
 20 GGTCTGGGAC GAACTGATTA TGTCTAACAT CTTGTGGCTG AACAGGGCGG TGAATCCGC 660  
 AATGCTCTTC TTCTGTGTCG ACAAAGGTA CGCCAGCACC CGCTTGAACA GGGGTG 718

(2) INFORMATION FOR SEQ ID NO:674:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 724 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1448UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:674:

GATCTGCCA GCGTGGCAT CCGCAGGCC GCAGGGGCG CGCGCGCGG CGCGCGCGG 60  
 GCGCTGGGC CACAATGCTG TCCATAGCC CTCAACATCC CAACTAGCTA GTACCTTGT 120  
 50 GCAATGGTC TACCGATGGT GTGTGGCGG GGGACAAAGC CGTGGTGAAA CGGACACTTT 180  
 TCAAAATGGG CTGATCTGCA GCAGTACAG ACGATGAGC TGCGCGTACG GCGACAGCAG 240

TCGGGTTTG GGGGCTGGT GGGCATAGG AACTTAGTA TAGTATAGAA GGGGCTCTA 300  
 5 CTTGGGGTAG GCAGGAGGA TGTGTGTT GTAGGGAGG TATTGGCGT TCGGGAGTC 360  
 CGGGATGGT CTCAGGCGA GGTGGGCA GATGGTGGC GGGATCTGG GTCCAGCAG 420  
 10 CTGGCTGTC TTCTTAGCT CCGTGAAGG GGGAGTGGC TCGGGGCGA TGCGATGGC 480  
 GAACTTGTG CGGATGTGT TGTGATCTG CGTGTGACC AGGCGGCG CCACGGGAC 540  
 15 CGCGGGACC GCAAGCTCT CCGGGGCGAG CGTCATGCA AAGTGGTCA GCGGGGGTT 600  
 CGAGGAGCG TAGGGGCGC AGCGGACTG TCTCGAGTT AGTAGCTGC CTGCGCTGC 660  
 20 TCTGGTGT ACATACATAT GCTTGTGC TCGGGGCGA GTCAGAAC ACCAGCTGC 720  
 CGGC 724

25 (2) INFORMATION FOR SEQ ID NO:675:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 697 base pairs  
 30 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1449RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:675:

45 GATCCAAAGA CCGGTGCTC GCACTCAC ATGTCTCAA GCTGGAGCG AACAACGATA 60  
 TCTTACTGC CGTGAAGAA AGCCGAATC ACAAATGCC AGATGCTGG AAGCAAGCAT 120  
 50 CTCCGAGGC CGAGCTCTA TGTATGCT GGGCAGAGT CTCAGTAA GCGAACTG 180  
 AATTTTCAA AATTTGAAA CTTCAACATG GTCACATGC TGACTGCTT AATATCTGT 240  
 55

AAATACAACC GGACTCTGCA GGTCGATGCT CCCTCAOCTG GGCCCCAAC TCTCCTTGT 300  
 5 ACCGGGTGCG GCGGTGGCTG CCTCATTCOG CCTGCATCTC GCTTCCAGAG GCGGCGCTTC 360  
 TGGGGTGGCG GCGGCGCTGC CGGCATTTCAT CGCGCGCGCC TACGGCAGCC CACCGGGCGA 420  
 10 CGCGAGGCAG ACCGCGCGGT GGACGTACCT CGCGCGCTCG CGGCTCTTCC AGCGCCTTTA 480  
 CGCGCGCGCT TGGTTCGCG CGTACATCGA CCGTCTGCTG GCCAACGGGC CCGTGCCAAC 540  
 15 ACTGCGCGCC TTCTGCTGC TCCATGAGGC CACCGCCATC GCTCCTCTGG CGCTGCTGTG 600  
 GTGGGGGGTC TACAGCTGCG AGGTGGTGGC GCTGTTGCG CAGGGCGTGC TTGACTACCT 660  
 20 GCGCGAAGCA CGCATCCTGC CGTCRAGAGG TTCGTGG 697

## (2) INFORMATION FOR SEQ ID NO:676:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 715 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1449UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:676:

GATGGGCTCA ATGGGTGCT GAAGCGGTGT CTTCGTAG ATGACCTCAA CTTAAAGGCA 60  
 45 GGCTCTGAT ATCTGTTTC TTTTITTAAC AGGTGAGCTT TGGAAAATTT TTGTTCTCA 120  
 GCTCATCTCA TCTACAATAG TATGTCTAGC ACGGCAGCAA AGCTTGGTA ACCGCTCTAT 180  
 50 TCAATATGAG TAAGCAGTA AATGATACTA GCAAGAATGG TCTTGACCTA AAGAGCTGT 240  
 TTGTCGGAA TATTCGTTT GATGCTACCG ATGCAGAGCT GACAGACTTC TTCTGCAGT 300  
 55

TTGCACCTAT TAAGCATGCT GTGATCGTAA AAGATAATGC GGGCTCGAGC AGAGGGTTTG 360  
 5 GGTTCGTGIC GTTTCCTGTG GAAAGTGATA CACAGGCTGC ATTGACAAG GGACCGAAAA 420  
 CACAGTTCAA GGGCGTCTT CTGAGGGTGG ATGTTGCCAA AAGAAGAGAA CGTTCGAAAA 480  
 10 AAGCGATGA GGGCGAGGCA CAGACCTGCG CGGAGGAGCC GGAGAAGCG ACTACTGCTC 540  
 CCGAGGGTGA CGAGGCGCTC ATGCGGGGCA ACGCCAAGCT GATCATTAGG AACATGCGT 600  
 15 GGTCTGCGG CGACCGAGC AAGCTGAAAA AGATCTTCGG TAAGTTGGA GTGGTTGCGG 660  
 AGGCTCCATC CCGCGCAAAG CGGATGGAAA GCTGTGTGGG TTGCATTGT CACGA 715

(2) INFORMATION FOR SEQ ID NO:677:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 705 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1450RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:677:

GATCAATTCT GTCCTGAAGT AGGTATTAT CAATGGGTCA GGCTGGGTGG AATTGCTTAC 60  
 45 AAAAATACCA ACCCAATCAT CTGTGAAGT GGTGAGCGAT ACGTAGACAA TTTGCTCAC  
 ATCAATCTTA TAATGACAG CATAGGTGAG TTGATTATTA ACCAGTGTCT TTCCGATAAT 180  
 50 GTAGAAATGG GATGCGTAA GTATAAAGGT TTTGGGTAGC CTTTGGGCGG ACCTACCAAA 240  
 TTTTGAATGT AGCGCTTGGC CATGATAGA GAATACGACA TGATCATTAA TTCCAGCTTT 300  
 55 CTTTTTGACA AACCCACCT TCGATTTCAG CTCATTACAA GAAAGGTAGT CTCCAGGAA 360

TGGCCGTGTA CCTAACAAAG ACATTGCAGC CCTCTCCTTT CTGCCACCCA ACAACTTGTT 420  
 5 ACGTAATCC CGGAGTGTGT CGAATTGGTT OCCATGTTTC ATCTCAGGA TAGCAGGCTG 480  
 GATACGAATC GCAGAATCGA TAGCCCGTTG TAAAAACCGC CGCCAGGCTC TCTGAATGGC 540  
 10 AGATGCCATA TTATGCCAAT ACTTATCCCT CATGTTTTC AAAGCAAACA AGGTCTCAGG 600  
 TGTTTTAATA AATACCTTCG TTACACCCAA CTGATATTCA GTCACAGGAA TTGAAGTATC 660  
 15 TCTCAAATT AAATTGACAG CATCTAAGGT ATTACCTTGC CATGT 705

## (2) INFORMATION FOR SEQ ID NO:678:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1450UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:678:

GATGCCAAGT TGAAGAGCG AGTATCCATA TGATTACTCG CGCAGAGCG CCGGCTCGCG 60  
 40 CATCAAGCCT CAGACAGTTA TCACTCGGCT CTCGAAATC GCAAAGCCA CGGAAAGGA 120  
 GGTATCGTG ACGACCGTG TAGGTCAGCA CCAAATGTGG GCGGCCAGC ATTGGAAGTG 180  
 45 GAAGAAACCA CGCACATTTA TCACATCAGG CGGCTCGGT ACCATGGGT TTGGTCTACC 240  
 GCGGGCATT GGTGCCAGG TAGCCAAACC CGATGCGATT GTCATGACA TCGATGGCGA 300  
 50 CGGCTCGTC AACATGACCT TGATGGAGAT GTCAGGCGG GTGCAGGCG GCGGCCAGT 360  
 AAAGATATG TTGTTGACA ACGAAGAGCA GGAATGTC ACTCAATGGC AGTCTCTATT 420  
 55

CTACGAGCAT CGTTATTCTC ACACCCATCA GCTAAATCCG GACTTCGTCA AGTTGGCTGA 480  
 5 TCCAATGGGG TTCAAAGCAA TGGGCTAGA GCGGCAGTCG GACATGGAGC CCATGCTGCA 540  
 GGAGTTTATT AATTGCAAGG AGCCCGTGTG ACTCGAAGTG GCGTCGAGA AGAAGGTTCC 600  
 10 CGTCTCCCG ATGGTCCCTG CCGGTAAGGC CTGCATGAGT TTATCTACTT CGACCCAGAG 660  
 GTCAGCGACA GCAAGCGGAG CTTCCGAGCA GCGGTACCG 699

(2) INFORMATION FOR SEQ ID NO:679:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 708 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1451RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:679:

GATCTTGGTG GTAGTAGCAA ATATTCAAAT GAGAACTTTG AAGACTGAAG TGGGGAAGG 60  
 40 TTCAAGTCA ACAGCAGTTG GACGTGGGTT AGTGCATCTT AAGAGATGGG GAAGCTCCGT 120  
 TTCAAAGGCC TGATTTTCCA GGCACCATC GAAAGGGAAT CCGGTTAATA TTCCGGAACC 180  
 45 TGGATATGGA TTCTTCACGG CAACGTAACG GAGTGTGGAG ACGTGGCGT GAGCCCTGGG 240  
 AGGAGTTATC TTTTCTTCTT AACAGCTTAT CACCCCGGAA TTGGTTTATC CGGAGATGGG 300  
 50 GTCTTATGGC TGGAAGAGCC CAGCATCTAT GCTGGGTCCG GTGCGCTTAC GACGGCCCTT 360  
 GAAAATCCAC AGGAAGGAAT AGTTTTCATG CCAGGTCTTA CTGATAACCG CAGCAGGTCT 420  
 55 CCAAGGTGAA CAGCCTCTAG TTGATAGAAT AATGTAGATA AGGGAAGTCG GCAAAATAGA 480



TCCGTAACCTT CCGGATAAGG ATTGGCTCTA AGGATCGGT AGTGAGGGCC TTGTCAGAC 540  
 5 GCGGCAAGTG TGCTTGTTGT CTGTCTCTGG GGGCTTGCTC CTGGGGACGG ACTGCTTGG 600  
 TGCTCTGTGG TAGACGGGCT TGGTAGACCA TCTCTGGTGG TGCTTGCTA CAATTAACGA 660  
 10 TCAACTTAGA ACTGGTACGG ACAAGGGGAA TCTGACTGTC TAATTAAA 708

## (2) INFORMATION FOR SEQ ID NO:680:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 722 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1451UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:680:

GATCCCTTAG CGACTCTCTC CACCGCTCGA CGAGGCCAAT GAGCTCTTAC GAACTGCACA 60  
 35 AACCTACTGG AACTCTGTTT CCAGACTTCT TTCTGTTTGT CTTCAACTGC TTTCGCATGA 120  
 AGTACCCCCC AGGCTATTTT TCTTACCGC CTGGTGTTTG TCTTATAACC CGTTGTATT 180  
 40 TTTGATAAAA AACTCAGCTC TTCTCTACG GCAGAAATAT ATATCCAGTC CTTAGCGCCA 240  
 TGCGAAAATC TGCTTTTITA CCGCTGTTTC TCCAGTCTT AGCACTGGCA GAAAAAGAT 300  
 45 GTATGCGGTA TAGGCGCTGG CCCCAGGAA AAAAAAAAAA AATAGAAAAA TAGAAAAATA 360  
 AAAAGAAGTG GGCCGCCCCG CCGGCAGACG AAGAAAAAAT AGGGGCCAC CCCTCCAAGC 420  
 50 AGAGACAGG CGAGACATAA TAAATGCCA CACCAAGGA AGAAAGTCTT GTGCAGCTC 480  
 CCGGCTCAT AGGCTGCCAT TCTGTTGCAT CCGGCTTCCA AACCAGTAG TGGCATGTCA 540  
 55

AAGCATTGCT CCGAGGCTCC GCTGCTTGGC AGTCGACATC CTCTTCTTAA CCCCAGCCAG 600

5 ACTTCCCATTA CTTTGCACTT CACATAGCAT ATCATTCTTC AGATCACTAC GTGACATTGG 660

GTACCGAATG GCACTCCAAT GCGACAAAAC CTCTTCTTAC CCGGTGACTT ACCCCGATGT 720

10 GC 722

(2) INFORMATION FOR SEQ ID NO:681:

15 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 719 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 20 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

25 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1452RP

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:681:

35 GATCAAATGT GGCTCTACAA GGGCGGAAGT GCGAGAGAAT ATTAAATGAAT CAGTTCCGGT 60

GACATATTTC TATTGTCAAG GTATTCCACA TTCTTTTGAG TAGGTATGTC CGTCTAGGAA 120

40 TGGCTGGCTT AGTAAGGCTT AATATTAACT GAAAAGCGCA GCAGTGTAAAT CCATCTAGTA 180

ACTAACACAT ATCCATTAGC ACATGTTTCG TTCAGTACTA CGTCATTCTT ACCCGGTCCC 240

45 TACTGTGAAT TACACATGGT CCTCGAGAAG CCTCATAAGA TTCTTCACTA GCGATGAGAA 300

GGCAGCTCCT CCATGGCTTC CGAGAGAAGA GCAGAAAGAG TTGGAAGGC TTCAGAAGAT 360

50 TGCACAGTCA CAAGCTGCCA TCGACGAGTA CAACAGACAG TTGAGAATG ACCATACGAA 420

GGAGTCAGCG AACTCTCCCA TTCTCAAGAC AGAAATAGGC TGGTTCTCAC CGGAATTCAG 480

55 CAAGAAGTTG CCAGAGTTGG AGGGGACAA GAATCCCGAG ACAGGGGAGA TTGGCGGGCC 540

GCGCCAAGAC CCACTGCGGT ACGGGGACTA CTCATACAAC GCGCGGTGA CGGACTTCTG 600  
 5 AGGTATAACT TGTGTTTATA TGTTCGAGG TTGTTTAAAT ACATAGCTTG CGCTCCAACT 660  
 CTCCTGCAGC TCGAGACAGG TTGTGGTGC ACTCCGTGAT GAATTTCGAG TCCAGCTTT 719

(2) INFORMATION FOR SEQ ID NO:682:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1452UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:682:

GATCAACAAC TCTACAGCAA GAAATCTTAC GCGCAGAAA AGCTGTCTTC GATGTTCTTC 60  
 TATTCTGTAA ACAGTTTGTT ACTTCGGTC GCTTGTATCT GCATGCGCTA TCATCTTTTC 120  
 ATCTGGAGCG TTTTCAGCCC GAAGTTGTGC TACCTTCTGG GCTGGAACAT CTTCACTCAC 180  
 TTTCTCACTG AGACGGTGCT TGAACCTTTC TTGCTCATGG TGGCGGGCTG ACTGTCTCTA 240  
 GTTCCACTTG TATAATATT CTTCACTAGT GAGAATCTCA TAGTATTGTC ATATATTAGA 300  
 TATTATCTAG GTCATGTTTT AGAGAATAGG TCTCTTCGA AAAAATGGC TACCACTGCC 360  
 AATCAATTACA TGTGAGAACC GACCATCTCC AAGTGTGAA CCGTCCCCAC TGCAAATGCT 420  
 CTCACCTAGA TCCAGCTTCA GAGCTTTATT TTCTGTTTCC TGCAGGGTTT ATGACCAGCA 480  
 GCGCAGAAG GCGGTGCTT CTTGCCCCGC TGGCACACCG CTGAATCTGC TTATAAAGAA 540  
 GGGCGGAAG GAGCGGTTGG CTCTGAAGA TCCGACTACC CGAGTGGTTA TGAAGGTGC 600

TTGACCTGAG GCGCAAGCGG CAAAGCTGGC AGAGGACCCA TTAAAGCGCG GAAGAAGGCT 660

5 CTGCGGCGGA TGAACAGAGA ACACATUCAG CAGCAGAACT TCTTGGGAGG GATGTGAA 718

(2) INFORMATION FOR SEQ ID NO:683:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1453RP

25 (vii) SEQUENCE DESCRIPTION: SEQ ID NO:683:

30 GATCTTAATT TAAATTTTAA ATTAAGTATT TATAATTTAG AAATATATAA TCTAGAGATA 60

TATAATCTTA AAATCATAGG TAAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAATA 120

35 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180

ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAAA ATGTTATAAA 240

40 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTTAA TTTTAATATT 300

AAATATACCA TTTTATTATA TAAATAGATT ATTAAGTTTA TTAATATTAA GTGATATATA 360

45 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420

TTTCATAATA TTTATTTTAA TTAGTCTAGT AATATTTCTA TTTAATAGTC TACCCPTTAA 480

50 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540

TAATAATTTA TTATCTAAAG TATATAAATT AATTAAATCT TTTTATTAT TATTTAAATT 600

55 ATTATTAAAT AGTAAATTAT ATTTATTTAT TTTATTAACA TAATTTTTTG ATAATAATAT 660

ATCATAATTA AATGGTAATT TATTAATAAT TATCTTAAAT GAATTTAATG ATAAACCATT 720

5 ATTA 724

(2) INFORMATION FOR SEQ ID NO:684:

10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 732 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1453UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:684:

30 GATCAAAATT TCAACAATTT CCATTTCATT TAGTACTACC ATCACCATGG ACCAATGTGT 60  
 ACATCATTTA GTTATTAGG TTACTATTA ACTTAGCTT TTACTATACA TGGTATTATT 120  
 35 GGTAATATTT ATCCTTTATT ATTATCTTTA TTAGTAGTTT TATTACTAAT AACTTTATGA 180  
 TTTAGAGATA TTGTAGCTGA ACTTACTTAT TTAGGTGATC ATACTTTAGC TGTAAAGAAA 240  
 40 GGTATTAACT TAGGTTTCTT ATTATTTGTT GTATCTGAAG TATTAATTTT TGCTTCTTTA 300  
 TTTTGAAGCTT ACTTCATTC AGCTATAAGT CCTGATATTC TATTAGGTAA TGTGTGACCA 360  
 45 CCAGTAGGTA TTGAAGCAGT TCAACCAACA GAATTACCAT TATTAAATAC TATTATTTTA 420  
 TTAGCATCAG GTCTAACTAT TACATATAGT CATCATGGTT TAATTGAAGG TAATAGAAAA 480  
 50 CATGCTTTAT CAGGTTTACT TATTACTTTC TGATTAATTG TTACATTTGT ATTATGTCAA 540  
 TATATTGAAT ATAGTAATAC ATCATTTACA ATTACAGATG GTATTTATGG TTCAGTATTT 600  
 55 TTGCTGGTA CTGGTTTACA TTTCTTACAT ATGGTTATGT TACTAATTAT GTTAGGTATT 660

AATTATTGAA GAATAAGAAA TTATCATTTA ACATCAACAC TCATGTAGGA TATGAGACTA 720

5 CTAATATTTA TT 732

(2) INFORMATION FOR SEQ ID NO:685:

10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 714 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1454RP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:685:

30 GATCATGCGT CACCGGGGIG GAACATGCAG GTGAGGGGTA TGTACCCCAT GTTGCGTTAT 60  
 TTTTTCACCT GAAGCGGATT GCTCTTGTT TATACAGACT TTCTGCATC CCTTGGGGGC 120  
 35 CAGAGCTAGG GCTAGAATC CGTGTGTAA GCGTTGGCA CTGATTCAAC ACGAGCACA 180  
 TTCCAGTGCT GCTGTAGAA ACGAGGCCCC TGAAGTATAT GGTGATATCC ACATTGCGG 240  
 40 AGTATAGTTC TCTGTGGGG CGACTTCATG CCAATGTGCAT CTCGGGCTTA CTCACAGCC 300  
 GCACAGCTG CATTTGTTTG GGAACATCAT GTGAAATACT GGTATAGAGC GCATTTCATA 360  
 45 GGGGTGCCAG CAGCTGTAAT AGGGGGGCAT ACCCGGCTCT ATTTGATGTG TTCATGTGCT 420  
 AGTTTAGAGG TATTTTIGAG GTGCATGGT TATGGCTTAC TTTCATATG GAGATCTCAT 480  
 50 TCGCTGTAA CGTATATAAC TGAGGTAGCC GTAACTTGC ACTGGTTCCC ATTGCCAGAG 540  
 CGAAGCTACA ATAGCACCAT CTGGCTGCAA GTTGTGAACA ATGCATTGGA ATGCATACT 600  
 55 CTTTGGGGC TGTGGGCTTT TGCTGCAACA ATTAACAAAT GCCTTTGATG AAGGAGTCT 660

AAGGAAATGT TATGAATCTG GTGTATGCCA CCGGAACAGG CATTACGGAG AGAA

714

(2) INFORMATION FOR SEQ ID NO:686:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1454UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:686:

GATCAAGGCG	TGTATGGTTC	CCGAGCGGCC	AGTAACAGCG	GTCTGTACG	ATTCAACGA	60
TTCCAACATG	GACGATGATG	GCTCCAAAGT	TATGTTCCCG	ACCACGCTTG	AATCAAAAA	120
GGTTTTTCAG	CCTATTGCTT	TTGAGGCCAT	CAAACGGGGG	CTGCAAGTGT	TTCCATTAG	180
GAATATTGCT	CCTATCTTCC	GACAGGTGGG	ATTCAAGAAC	GTAAATATA	CGGTCTGAC	240
ATTCAAGGCG	GGGATTTTGG	TGAATGAAAT	GGGTTGGTG	AAGAGCTAC	TTGCAAGTT	300
TCACTACGAT	TTTCTAGTGC	GAACTTTTTT	AATGATGGT	AGTAAGTATC	CAGTTGGAAC	360
TGACCCACAG	ACACTGCCGA	GGAGTACAT	TCATGACCAC	ATGGGCCAAA	TAGATGACAA	420
TGCAGGATGC	TTGGTCTTTA	TTGCAATCAC	GGGGAAAAAA	CCAGAGTAGG	TTTCCACCGT	480
TGCTATTGCT	ACCGGGGGCA	ATTCTCCCGG	TCATTATATA	TGTTAGCAGG	TGTCAATACC	540
TCCTTACAAC	CTAATATTTC	AAAACCTAAT	ATCTTCTGCT	CCTTAGAAAG	AGGCACTTCC	600
TTATAIGTGA	ATACTTACCG	CTAGTCTTAT	CTAATAATTT	TATAATTTTG	ATAAATCTTG	660
ACGTACATCT	TATCACTAAG	GAAGATCTCA	TCACAACTTC	CGCAAAGTGT	TTCATATATA	720

## (2) INFORMATION FOR SEQ ID NO:687:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 712 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1455RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:687:

GATCTCTTCG ACATAGTGTG TTAATAGGCC TGCTGAGGAC TTCACTGAGA AAGCTTCAAT	60
AGCGGGCAAT GGCCCATCTC ATCAACACTT AAAATTTTTC GTGGCAAAG AAACAACACT	120
GGAATCAGCT GACCACACAA AACTCAGGAT TTAAGTGTGA AGGGGAGCAG GCTACGAGA	180
CTCTCTTCG CATGGTAACT CGCTGCTGTC CACTTGCCGC TTGGGAGCCT TCTTTGCTGA	240
CGCTGGCTCT TTCTCTCTTT CTAACAGCCT CTCCCGGTTA GCTGTGATGT AGTGGATGAA	300
GAAGTCGCA TCCTTGCTGC GTTTCGCATC ACGCAGGAGC GTCTGACAT CGTCGTATAT	360
ATCAATGGGT CGCTTTGCA GTTGGTTTAG CAGCTTGTGA TCAGGCCCTG CACATTGCAA	420
CTTGGGATG GCTTTGGTGG ACTTGAACGA CACCTGGCCC GGTTCATAT ATCCAGATTT	480
GCGCAGGTTG TGCCAGGGCG TGCTCACAAT GCTACATTGT GCTGCTTGT TCCCTGTAC	540
AGACTCTGAC TTGCACAAC GCAGGCAGGC ATGCAGCACA TCCCGGGCA CGTCGCTGGA	600
GCTCTGCTGC TTTCATGTA ACTTGAGATA GACATGTGG CTGGCACTAT TGCTACGTT	660
GGAACAGAA GTAGTTTAAT CCGGTACCC GTGCTTGAAC AAAAGGTGCT TC	712

## (2) INFORMATION FOR SEQ ID NO:688:



## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 720 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1455UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:688:

GATCCCATCA CATGAAATGT CTAGAACTCC CTGCATGACG CGAATGAGGC CAAGAATGTC	60
TGGTGGGCTT GGCTAACCGA TGTTCGCAAC TGCAACAAGG GGTACTGGT GTTTATAGCC	120
GTATGTGTC ATCCGGGATT CGTCAACAG GAGAGAAGAA CCGGACCACA AGGAAACCGC	180
GTAAAGCATC TAGAATCAGC AACCTTAGAG AACGTTTGTT CGTCGTTGGC GCAAGAGCAC	240
GGAGCGTAGG GGCTGGGAGT TGGGTGGCT ATTTCGCTT GGGCAGCCCG GGTATATAAG	300
TAGGGTATGC GTCCGTGAA CAGAATGGAT CCGTCTCAGA ACAATACCAA AATCGCATTT	360
GGAAAAACAA CCACTAATAT GAAGTACACC TCCGCTATTC TACTCGCTCA AGTCGCTTTT	420
GTTCAGCAC AGTCATCTC GGGTCTGTT ACCGCGAGCG CTGCCCCCGC TCCGGGTGCG	480
GGTCCGGCG CAAGCATTTT TAGCACCAGC ACAGTCACCG CCTCAGGTTT TGGACCAGGC	540
GCGAGTCCG GTGCTAGCTC CCGTCAGCA GCGCGGCGCG CTGGCGGGGC CCGAGGTGGC	600
GCCGCATGIG GCGCGCAGG TGGCGCGCC GGTTCCTAACT CCGGCAACTC TGGCTCCAAT	660
GGATCTGGCT CCGGCGCAGA ACACTCTGGA ACAGAACACT CCGGCGCAGA ACACTCTGGA	720

## (2) INFORMATION FOR SEQ ID NO:689:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 696 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1456RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:689:

GATCCACGCC GGGCTGCTGA CCAACGTGCT CATCATGGCC GGGACCTCCC TGCTCCAGGG 60  
 CCTGGAGCAG CGCCTCTGCA ACGACCTCAG CCTGCAGTTC CCGCAGTACA AGCTCTCTAC 120  
 CTACGCCAAG CCGCCCTCAG TCGACCGCCA GCTGCAGAGC TGGCAGGGGG GGTCAACAT 180  
 GTGCCACCTC CCGGACTGGA AGCTGGGCTC CTGGGTACCC AAGCAGGAGT ACGTGGAGTC 240  
 CCTGACAAG TAGCTGTGTA GTATGTAACC GTATGCGCGG ACCCTGGGGT TTCTTTCCCG 300  
 CTCCCCCACC CCGATGAGCC CCCCCGCGCG CTTCGCGGCG TCCCAGGCGC TGGCGCGCGC 360  
 CGCGCGCGCG CCGACACCG TCGAGCTCTA CCTGGACTAC TGCTGCCCCCT TCTCGCGCGG 420  
 CCTCTTCTCT GCGTGGCAGC AGGCCCTTTT CCCCCGCGCG CGCGCGGACT CGCGCTTCCA 480  
 GATGTTCTTC AACCACGTCA TCCAGCCCTG GCACCCCGCG TCCCAGTACA TGCACGAGGC 540  
 CGCCCTGCGC GTGCGCGCGC TCGACCCCGC CGCCTTCTCT CCGTTCTGCG GCGAGCTCTT 600  
 CCTCCACCAG GACCGTGGT TCGACAAGCG CACCGCGGAC AAGTGGCGCC ACGCGGTGTA 660  
 CCGCAAGCTC CGGACTTGGC GCGCGACGCC GCGCGC 696

## (2) INFORMATION FOR SEQ ID NO:690:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 739 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDELNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1456UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:690:

GATCTGGAAT ATTACCGCA CAAACTTGGC GCTGTGCTTC CACACCAGCC TCCGGTACCG	60
CTTCACGGCC ACCAGCTCCT GCAGCAAGCG AATGCACAGC TATGCCAGCT CCATGGGCTC	120
CAGATTAGTC AGAACCGCA GGTAGTTGGG GTTGCACACC AGCGCTCCA CCAGCTCTTC	180
GCTCTGCAGC CCTCTCTGGA TCAGCAGCGA GACAAAGTTG AAGCAAGACA GCAGCAAGAA	240
CTGGTGTTC GCGCGCTGT CCGTCAGTGT CGACTCGTAC AGCTTGGCA CAAGCTCCGG	300
GCGCTTCTTG AAGTACCGCA GCACCTGTG CAGTACTTG TGCTGTGA ACAGCTCGA	360
CAGCAGGTC AGCAACGCC GCTTGGCAIC CAGGTGTTC GAGTCCGA GCAGTGCAC	420
CAGCGCTGC AGCGCTGTT CCAGCGGAG ATCCAGCGG CCGCGCGCG CGTGTTCGA	480
CAACGTGAC TCAGCTTCT TGSCAATCC CCGTCAAC TGCTCAGCT CCGCGAAGC	540
CACCAGCGG TCCACGCA CATGCTCGA GCTGATGTA TTGGGATAT CGTGAAGTG	600
CGTGTATCA AGCAGATCT TTGAACCC CTGAGCCAG GGCATGTCA CAGCTAAGAT	660
CTAGCTTCC AGCCACGT ACTGCCACT TTGAACCC TGCGACTAGT CAATATCTG	720
CGTGTCTGG CGGACTCC	739

(2) INFORMATION FOR SEQ ID NO:691:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs

(B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: LNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1457RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:691:

GATCAATATC GGGACGAAAT CTGTTGTATC TACTACGGC ACGGCGACTG CGCCCGAGGC	60
ACCAGGATCT CAGGCTTGGT CAGCGAGTCC GGATTGGTCA GCTAAACAAA AGAAAGATTG	120
ATCTCCACTA CCTCTTGACT TACCTCCACC GAAGGATTTT AGCAAAGAAA TCGAGGAGAT	180
TATAGAACAC GATTTGACTA AATTGGCCTT TCAGAATCCT CTTTTTAAAG ATGAACCTCC	240
ATATTGGTTA CAGGCCAAGA GGCCATGAT CCAACCGTAC AGCACTATGT CTGAAGAAT	300
GTGGAACAG CTGGAATCCT CATTACTTAA CTGCCAGAT TGGCTTGACG CTGACACACC	360
ACATCTCTAT CAACACCGGC TCTCTTTACC GCATCCACC TCCATTTTCT TCCCTAGTGA	420
ACCGATCAGG TTGGTGGCTG CTGGCTGGAA TAAAGATAAT ACGTCCACTA AAGATATCTA	480
TGGAAAACT TCTATGGTTC AGATAATGAC CAAGTTGGAT TTGGATACCC TGTTTTTTAT	540
CTTTTATCAT TATCAGGGAA CGTACGACCA ATTCTAGCT GCCAGGGGAA CTAATCATCC	600
GTGGGTGGAT ATTTAATAGA GTCAATCGGT GCTGGTTTTA CAAAGAAGTT GAAAAGCTGC	660
CCCTGGAT GGATCAAAA GAAGAGGT	688

(2) INFORMATION FOR SEQ ID NO:692:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 711 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1457UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:692:

GATCGAGGAC TTGAAGCACT TCCGGCAGGT CCGGTCCAAG ACCCCTGGGC ACCCTGAGTA	60
CGAGCTTCCC GCGGTGGAGG TGACCAACCG CCCTCTAGGC CAGGGTATCT CCAACGCGGT	120
TGGCTTGGCG ATCGCGCAGG CGAACTTGGC TGCCACTTAC AACAGCGCG GTTAAGAGTT	180
GTGGACAAC TATAGTACG TGTTCTTGGG CGACGGCTGT TTACAGGAGG GTGTGTCTC	240
CGAGGCTTCC TGGCTTGCAG GCCATCTAAA GTTGGCAAT TTGATTGGT TCTATGACGA	300
CAACAAGATC ACCATCGATG GCCACACTGA GGTGTCTTC GAGGAGATG TCTTGAAGAG	360
ATACGAAGCA TACGGGTGGG AGGTGTGAA CGTTGCCAAC GGTGACGAGA ACTAGAAGAC	420
ATTGCCAGTG CCTTGGAGCA GGCCAAGAAG AACAGGACA AGCCAACITT GATCAAGTTG	480
ACGACCACTA TTGGGTTTGG CTCTTGAAT GGGGGCTCCC AACTGTGCA CGGCGCGCCA	540
TTGAAGCGA TGATGTCAA CAGTTGAAGA CGAGTTGGG CTTTACCCA GATGAGTCT	600
TCATTGTGCC TCAGGAGGTT TATGACCTCT ACCACAACAG CACTATCCAG CCAGGTGCGG	660
AGTCCGAAAA GGAGTGAAC GCTCTACTCG AGAAGTATGC GGTGAGTAC C	711

(2) INFORMATION FOR SEQ ID NO:693:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 688 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

5 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1458RP

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:693:

15	GATCCGCAGT AGCTGATTGT TGGGTGGCC AGCGAATAT TGCTGGAAGC GGTCAGGCG	60
	CGTATATTIG CTCTGGGAC CGCAAAGTA CCGCGGAGG TTACTCTTGC TGGTCGTACT	120
20	AGAGAAGTTC CGCACTGCCC TAGCAAGTGC GGTCGTAGT ACGGATTTA GCTTCGCCAG	180
	TAATGGTGTG AAGACGTTC GAAATGGCAC AGACGCTGT ACTGGTCGCA CTTGCAAGTG	240
25	GATAGCGTTG CTAAGAAGA AACACGCCC ATACGAGGC GTGAACGTAG ATAAGCTCAT	300
	GGTCAGCAAT CAACAAGCCT AATGATGATC TTCCTTACAA AATGAGGTC TAAAGCGAG	360
30	TTAAAAGGG ATGCCCAAG CTATGTTTGA CACCTATGGA ATATCGGTAT GAATGACTGT	420
	GTATCATTAA CGACGCTACT TCCTTACAGG GCAATGCCAG GATGGTAAG CCGAGTAATG	480
35	TCCAATAATC ATCATATATA CTCTAGTTAT ACGCTATGAG GGGTCATTTC ATGTATTGTT	540
	CGTTCGGCTA TGGCTATGC TTCAAATTG ATGAGGTTGG GCAGCTGGC ATTGTAACCT	600
40	GCGGGTGGCA TGTTCACTTT CTCTAGTCTC TTTTGTGGG GGTGTCTTC GTCTGGTCC	660
	ATGTCAAGGT CCAAGAGATC ACAGAAA	688

45 (2) INFORMATION FOR SEQ ID NO:694:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 724 base pairs

50 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

55 (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1458UP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:694:

10

GATCTGTGTC ACCTGCTATT TCAGGCAGAT TTGTGCTGC AGCAGGGCAT GCCATACTA 60

TCTGCTTTGG CGCTGCTGC GCGCGAGTTG CCGGGGCTGG AAGACAAATA CGTCTCAAA 120

15

CCGTCCTTTG ATTTCCCCAC ACGCCGCCCTG CCCAGAAATG ACCCAACATC AAGAGCCCTT 180

GAAAGCCGGG AATCCGGTAC AAGCTCCGAG GGGACCATCT CTGCACACCA CACCGTCTGG 240

20

CGGTGCGGCA AACTTGACTC ACGGCCAGCA CCAGAAGGTC CGAAGCCCTT TCGGAAGCAT 300

GCACCTGGGT TTTCTTCCC GCTGGGCGAC GCGTGGCTGA ATGGCATGGA CCTGGGCACT 360

25

TTTGACGCCC TGTTCAAAAA GCACTACCTA AGCACCCCTG GCCTTATTCT TGCAGCCGCC 420

AACCOCATG CAGAATTGA CCGGATGTCC GAACTCATGA GCTACGTTTT GCAGGACGCT 480

30

GAGGCGCAG ATATCAGCAT TGAGTAGCCC GTGGGCGATG TGTACGGCA TGTGTGGACA 540

ACTCTGCTT GCAAAGTGA TCCCGACCAC TACCATGCAT TAGTATGAGA TCTATAGAGC 600

35

GCCAATGCA CGCTAGAGA GATGTGAAC TCGCAATGCA TCTCTGGGA GTCTCTGIGG 660

CCGGCAGTAT CTGCTAGTAC ATACTCTTTG TAACTCTACA GAGATGTGAA GTCTTGTAC 720

40

CCGG 724

## (2) INFORMATION FOR SEQ ID NO:695:

45

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 569 base pairs

(B) TYPE: nucleic acid

50

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

55

## (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1459RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:695:

10 GATCATGCTG GGGCATATCT GAATGCTCTT GAACAACCGA CTAGATTAAT GGAGCCTTGC 60  
 ACTCAGAGGC TTGGGCAGGA TGCAGCTTAT GCGGGAGCGG CTGTTGGAGC TTTACAATAC 120  
 15 CAAGCAATAT GTGGTGCTGC CCCCAGATGA GACAGTAAAA CTGCAGOGAG AGGTGACGGC 180  
 GAGCCTGAAC TCAGCAGATC CAGGACTCAA CGACGTTGAC CGCATGGGCC TAATGGAGAT 240  
 20 GAACCTCTAT TTGTTGGTGT ACATTGCGGA AGAAATAGAA GCAGACGTGC TCTACCGCAC 300  
 ACTTGTGGA CGTATAGGTG AGAAGTGGC CCGGATGCAC CTCATGAAG CTACGTTACT 360  
 25 GCAGGTTACA GAAGGTGATC CCGCTGGCGC GAAGTACCTG AAGAACTGC TTGAAAAGCA 420  
 GCTTGAATAC GATACAGATT CCGTGGATTA CCGCAGGIG GCAAGAAGC TAATTGGCT 480  
 30 GGAACGGGCC GCGTTGTCCA CCGAGCTGTG GATGAAAAAG CTGCTGTCC CTGCTAGAGA 540  
 AGTTTCCACT GGACGCCGAA CTATGGTGG 569

35

(2) INFORMATION FOR SEQ ID NO:696:

(i) SEQUENCE CHARACTERISTICS:

40

(A) LENGTH: 572 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

45

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

50

(A) ORGANISM: PAG1459UP

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:696:



GATCAAGTGC CTGGACATG GGGACTTCAT CCACTGGGCG CCAGCTACGT GGTATATGAC 60  
 5 ATTATGGGCG AGAGGTTAAG GCTGAGACT CGAATAAAT TGAGGATCT CTGGGCTCT  
 GCGCGGCGAG GTTCGAATCC TGCTGATGTC GTTATTTTTT GCTTGGGCGG CCTACGGGG 180  
 10 GCTGTATTTT GCTTGTGCT ATTAGATAA ACGAGATAGC TAACTATGG GTAGAACTGG 240  
 CGGTACTTCC CGTAGTAGTA GGCTGTGCGG AAGCGGCGGA GGGCGGTGAG CACCAGCGGG 300  
 15 ACGGGTTTGG CGAAACGCGA TGSCACGCT CTGATGAGGC CGTCAACAG CATCAAGGAG 360  
 CTGGGCGCAA GGGGAGCTC GAGGCGGCGG TCTGGTTCT TCGGAGCAA GTACCTGCT 420  
 20 ACAGCGTAGG TGCTACCAA AACGAGACT GCAGCCAGCG AGGCACAGA CCGTTTAGGC 480  
 CAGTAGGCGA TCGAGCCACC GATGACGGTG AGCGGCGCGA GAGTGAAGA GCGATGTTC 540  
 25 CTGGCGGTGG TGGTGGGTGG TGCTGTGGGG AA 572

## (2) INFORMATION FOR SEQ ID NO:697:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 35 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

40 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1460RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:697:

50 GATCGGGTGG GAGACACGAA AGTAGACAGA CACGGACGGC TGTGGGTGG AAGGAAGTAC 60  
 CTCGTGGATA CATTCAGCT GCGCCAAAAG ACACATAATT TCTATGTGCT TGTGACGAG 120  
 55 CTGATAGAGA TTTTGCAATT CGAGGGGAGC GGCTGTGACT TTTTGCACCT GCATAATCAG 180

CTGTACCCGC TGGAGCTCAA AGACAACGAG CGGGCCCTGC TTGCAGAGGC TGGGTTGATC 240  
 5 AAAGGGGAGC TGGGCTCCCC ATACTAAGTT ACTGCACCTT CTTCATACAT CATTTTGGT 300  
 GCTGCTATTG TGGCGAGCGG CTGTAGGATA ATAGATGACT ACTGGGAGCA GCGCTTAAAG 360  
 10 GAGCAGGGAT TCACCATGCA CCAACGCTGA TTCTCTCTGA ACGGCACGCA ACTTTCATTG 420  
 CTACGCCTGC TGAAACCCCC GCGTCCAGAA TGCATCAGC AGGGTGAGAA GCTGGATACC 480  
 15 AACTGGCTAC AGAAGTGGGA GGATCCATAC CCAACGATCC AGGAACAACC AAATGCTGAA 540  
 GCACGGGGGG AATACGCTAG AGAACACGCG AGAGGTGAGC ACATAACGAT GATTGTTCCA 600  
 20 GGTCAAAGTA TTAGCGGCAG TATAGAACTG AGCCTAAATT ATAAACTTCC TAAGTACCAC 660  
 TACAAAAACT CATTTGCTAA TGGTTGA 688

(2) INFORMATION FOR SEQ ID NO:698:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 649 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1460UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:698:

GATCCAACAA TTCCCGCAGC GCGCTCCAG CGTCTCTCTC CGTCGCATCA AATGAGTCCA 60  
 50 CGCTGTCTC AATCCCGCAC AGCTGCGGTC CATCGGCCAC CTCGAAGTGC ATCCCGGACG 120  
 CAAACAGCTG GATAAACAGC CGTTCTGTCT CGCAACCCCG CCGCAGCTGT CCAAAGAGCG 180  
 55 CCTCCGCACC AGCTGCTATA TCATCGCCCC AGAACTCTC TAGGAATGCC CCGATCGCG 240

TGTACCTCGT CGTAGTTGIG CATGTGCGTG CTCTTTCCGG CTGAATTTTG ACAGTCTGGC 300  
 5 CCCCCACCC AGCTCCGGAA CGCTACGTAA TACAACACAC AACCAAATGC CCTAACCAGAA 360  
 GGTCGCAATC GTTTCTGCA CCGGCTGGG CTGGGGCTTG CGGCAAGCT GGTATGCTCA 420  
 10 AGAGTTGCTA CAGACTTTTG GCGACTCCCT AGCAGAGATT GCCCTGTGAC CCGGTCCGTC 480  
 CCGTCAATTC CAAGTCTCT GTTACGCAAG CCAAGAACAA GAGGCCACGG GACACGGCCA 540  
 15 ACACCATCTG GGATGGGCGC CGGACAATG GTTTTCTGTA TAGTAAATAT CTGAAGCAGG 600  
 CTGTCAAGCC ACTCTTTTTC CAGACAGCG AACCGCTTG GCGCCACAT 649

(2) INFORMATION FOR SEQ ID NO:699:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1461RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:699:

GATCAAACCA CCACGGCACA TCATCATAGT TGATTAAATC AATTAGGTAA GGCAACCATA 60  
 GTTCAGACT TTGTTCTGT ACCATTTTCT TGGGATTAA GAAGTAGGGA GTCACGAGGA 120  
 45 AATGCACCGC ACATGCTTTG AGATTGTTGT TTGGGATTT TAGAAGGCCA GTAACGAAGA 180  
 CCGTGAACGA GCTGTCCAGC CATAGATTAT TTTTAACTGG ATGAACCTTG TAGCACTCGA 240  
 50 TGTATAGGAC AATCGCAAC CAGAGCAATG TCTGTGCAA CCGGTCTCG ATGACAAGCG 300  
 55 CACGGGGGT GCTCGTAAT GGTAGGAGTT GGTGCTTCC TATCCACGG TTGCTAAATG 360

CCATGTACTC TTGGTCCTTG GGGTTCCGGG OGACGCTGAC CTTTAAAATG TATTTGAGGT 420  
 5 CCAACTGGTG ACCATAGGGG TCCACTAGTG ATAGCATGAG TGCCCTCTAAC GGCAGAAGAA 480  
 GCGCTTGGGG AAGCGAAAC ACCTCCCGGC ATTTGAGCAC GGCAGACATT AACTCCAAAA 540  
 10 GCGTGTGGC CCAGGAGATC TCTGCTCGG AGTCATCTGC TTCTCATTC A TCCCGAGGA 600  
 AGTGTATCAA AAGCCCGGC AAACCCACGG GCACAGCCCG CCGCACATCC GCGTCCCAT 660  
 15 TACAGTAGTC TATCCACAG TTGTTCAA 688

## (2) INFORMATION FOR SEQ ID NO:700:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 728 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 25 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1461UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:700:

GATCGGCGAG TTAAACTTA AAGTTGATAG AGTTCCCGTC GTGCTCTCTG GATACAATAG 60  
 40 AGGCCACCGA GTGACGTGG CCGTGCAAGT AGTGCCCGCC GTAGCGGCTG TGTCCGAGA 120  
 TGCCCTTTC TAGGTGATC TTGAGCCAG CTTCCAGCT GCTGACTTCC GTCCGATAAA 180  
 45 CTGTTCTG TGCGATCCCG ACCTGAAGC TATCGGCGT GAACTCCGTC ACCGTCAGGC 240  
 AGATACCAIT GCATGCAATC GAGTCACCGA TGTGGCAATC CGCCAGTATC GGAGCCGCAT 300  
 50 CCTTGATAAG GACTGACACA CCGTTGCCG CTGCTCGCT GGCATGTTT TCCAAGTACT 360  
 55 CAGCAACAGT GCCAATGTGT TCCACTATAC CGGTAAACAT CCTATCAACT TCTATGGGCG 420

ATATAGGCTT CGGTATGCCA TCTATGCATC TTCTTTTCTG CTACCGGAG CTTTTTAAAC 480  
 5 TOGTAAGACA TGCATAAGGA AATGGCGGTT CGCCATGTAG CTGACTAATA AACTAGAAG 540  
 ATACGACTAA CTATCTGATT ATACTTTAGG ACTATCTCTC CTTGGGCTGG TCACAGAAAC 600  
 10 ATCGTTGAGC AAGTCGGTC TATCGGGAAA ATCACTTGGT TCCTTTGTGG TAGAGCTAAC 660  
 TCCTGAGAA GCTGGAAAGC GCTCTTTTAA AGTCTACTTC GAATGGTGGT GTACGTCTGG 720  
 15 GTGCTGGC 728

## (2) INFORMATION FOR SEQ ID NO:701:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 701 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1462RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:701:

GATCTTAATT TAAATTTTAA ATTAACTATT TATAATTTAG AAATATATAA TCTAGAGATA 60  
 TATAATCTTA AAATCATAGG TAAAATACA TAAGATAGTA AGAATAAAAT TAGTAAATA 120  
 45 AATAGAAAAC CATAAGTTAA TTGATTCATA AAGAAAAATG GAATTATTTG TGGCATCTTA 180  
 ATTTTATTA TTTAATTGAT TATTATCTAT TTAACATAAA ACATTTTAA ATGTTATAAA 240  
 50 ATAAATAAGA AATTACTTAT AGAATATTTA TTAAATAGTA TTTAATTAA TTTTAAATATT 300  
 AAATATACCA TTTTATTAA TAAATAGATT ATTAAGTTA TTAATATTAA GTGATATATA 360  
 55 ATTTAATTTA TATAAATTAT TTAATTTACT TCATTGATAT ATATAATTAT TAAATGTACC 420

TTTCATAATA TTTATTTTTTAA TTAGTCTAGT AATATTCTTA TTAAATAGTC TACCCCTTAA 480  
 5 TTGGATATTA CTACCTACTA AATATTTACC TAATAATATA TTATTAAGAA TACTTAAATC 540  
 TAATAATTTA TTATCTAAG TATATAAATT AATTAAACTT TTTTATTATT ATTAAATTA 600  
 10 TTATTAAITA GTAAATTATA TTTATTTTATT TTATTAACAT AATTTTTTGG ATAATAATAT 660  
 ATCATTATTA AATGGTAAAT TATTAAATAAT TATCTTAAAG A 701

15 (2) INFORMATION FOR SEQ ID NO:702:

(i) SEQUENCE CHARACTERISTICS:

- 20 (A) LENGTH: 728 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

25 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- 30 (A) ORGANISM: PAG1462UP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:702:

GATCAATTAA TAAATGGTTT AACTAATAAA GTTAAATAA AATCTATTAA TTATATAAAA 60  
 40 CTACCTGATT TTATGAATC AAATAATATT TTCTTAATGA ATACTACTAA ATCATCATCT 120  
 ATTGAGTTTA TATTAAATTC ACCACCTCTT ATTCATTCAT TTAATACTCC TCTAATTCAA 180  
 45 TCTTAAATA TTCTTAATTA TTAAATTATA TAATAAAAGT TAGTGGATAT AGTTTAATTG 240  
 GTAAACATA TGTTTTAGGG ACATATATCT TCAGTTCAAA ACTGAATATC TACATATTAT 300  
 50 ATCATTATA TAATAACTCT TTAATTAGAG TGGTACCACA AGAATGCTGA AAGCATTAGG 360  
 GGTGTGTACC TTAGCTCTCT AATTAAAGTT ATAAATTAT CTTAACTAAT AAAAATAATT 420  
 55 AATTAAATAA ATAAATAATT AATTAAATTT AAAATGTTA AAAAAAGAAA TAAATAATAT 480

GTTATATTTA AATAGATCAA AATTTCAACA ATTTCATTT CATTAGTAC TACCATCACC 540  
 5 ATGACCAATT GTTACATCAT TTAGTTTATT AGGTTTACTA TTAACTTTAG CTTTACTAT 600  
 ACATGGTATT ATTGGTAATA TTTATCCTTT ATTATTATCT TTATTAGTAG TTTTATTACT 660  
 10 AATAACTTTA TGATTAGAG ATATGGTAGC TGAACCTACT TATTTAGGTG ATCATACTTT 720  
 AGCTGTAA 728

(2) INFORMATION FOR SEQ ID NO:703:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 688 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1463RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:703:

GATCCCTGAG TCTGCTACCA AGGAGGTGCA GGAGGAGGAC ATCGATATCG AGCAATTGAA 60  
 40 GCAGGAGATG AAAGGCAACA AGGAGGCTTC TGCTTTGTAA GCTTCTGTGT TCCGCTTGT 120  
 GCTAGCCAAT CGTTCTGAG ACTATCTAAC TTGTATACAT GCGCTATCG GGCACCGCA 180  
 45 AGCGAACACT ATAATGTATA TGTCAAGTAA AATACATCAT ATATTATCTT GTGCTCAAG 240  
 GGTCTTAAAG ATGTCATAGG ACAGTCGGT GCTCAGACAC ACGAATATAA TCATAATAAT 300  
 50 AAATATATGG CGGTCAGCTT CATGACCAGG TCAAGCCTTG ATACCAGAAG ACACTTCTAG 360  
 GAATTTCTCA ACGGAGAGA AAACACTAGG GTGTAGGTG TCATTGTCA AGGACATCTG 420  
 55 CTCCTGGTC CACAAGTTGG CTTCTGGTAC ATAGTCTGGT TCACCGACAC CCAATAAGCC 480

ACCGTCCGCA GCGCAATCGC TGACAGGTGG AAGCTGTAGT GTCTTCAGA CGTCATCCAT 540  
 5 GCGGTUCAAT AGGACATCG ACAGGTGGTT CGTGTGGCCT GGAGTAGGAA TGATACGGAG 600  
 TCTCTGGGTC CCGCGTGGAA CCGTAGGAGT TGAAGGGCCT GTACGTAGAT GCGATGCTCT 660  
 10 CCATCAAAT GTCGGAAGCA CCGTTGGC 688

## (2) INFORMATION FOR SEQ ID NO:704:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 704 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1463UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:704:

GATCAACAG TAGAAGTATT AGAGCTGCTT GCAAAGGGCG TCATAAACAA GAGAGCTGTA 60  
 ATGTGACAA ATTAAACAGA AAAATATCAT TATTAGTGA TAAATAACCA ACTTGCACTG 120  
 40 AGAGTATAGT TCTACATGTT TATTCGGTAA CAGAAITTTCT ATCCAAATAG TTAAATTCG 180  
 TTTTACTTAT CTACGGAGTA GCAGTGCAAG AACCTTGTAT CCCAAATGC TAGAGGGACA 240  
 45 TGCAGATGTA TAGTAAAGCA ACGTCTGTTT CTTTGGATTT AGCAGGTCA GCGAACAAA 300  
 AAAAATAGAA AGTCAACAGG GATTGGGAAG TTATGAGAGT TGATATGTTT GTCCATTAGT 360  
 50 AAGTCATTCA GTTGATATGA GGTGCTTAAA TGTTTGTAAG AAGCAAGAAC GAAGAGAGAT 420  
 ACAAATGIG CAGTTGTGAA TCGTGAAAT GACACCAGAG GAGTCACTT CCGTTGCCA 480  
 55 CTGTTTGCCA ATTGCTTCTC GAGCTGCTCA ACCTTGGCT GTAAATCTCT ATTGACTTTC 540



TTTAGTAGTT CCAATTC AAT ATGGGTTTCC TTGATCTTC CATAGCTGAG CAGTTTGGCC 600  
 5 ATCTCCTGGT TCTCTTTTGT CAACATTTTG AGTGGACAA TCATCTGTG AGGAGGGCT 660  
 TCTTCGTCAT AACGGCCGAA TCGGTAAAG GAATTAGAGG GATT 704

(2) INFORMATION FOR SEQ ID NO:705:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1464RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:705:

GATCGAAATA ACTTCCGCTG AAAACGCAGC AGAGGCAGCC AATGGTCAAA TGGAGGAGA 60  
 35 ATATCCAGCA TATTTCTAGG GTACIGTTC TTCCAGTTG GTGCTGGAA ACATAACCT  
 CAATGGGCC CAGTGTGTG TACATACCCC ACACCGAAA CAGACCATG AATGACCGA 180  
 40 AAACCAACAG CCAGGCGGT AAGCGCCAT CCGGTATTC GTGGAGTTA TCGAGATATG  
 CGGTTCCTC TTCTCTACC TTTTGGTCC TGAGAGGAC AGTCTGCTGA GGGCACTGG 300  
 45 TCGTTGGGCC ATGCCAAAA AGCTCTTTGT CGCCACAGC TGGGCTCTG CCGCTGTCAG  
 ACGATGGCT GAGTCTAGG GCTACGGCT CATGCCATG CCGTACTGA ACCCTGTCT 420  
 50 TGTCATGAC CACCATCGTT CCTAGCAGT ATGGGAGATG CTCGAACCG CGTCAGGCC  
 ACCACAGACC ATCTATCTAC TTAATACCT AATTATCTG GTCCAGCTA AAAATCCAG 540  
 55 TATCAGTCAT CCTGTGGCG CCTTATCAC CATTAGGTC CGCTTTGGG TAGTGCATTA 600

CCGTGGGGG GATTGATCT CCAAAATGTC TCAAGCGATG CCTTGATTCC GAGTGTACAA 660

5 GGGCCAGATT CCAACGGGCC AGGAGGCAAC TAATAGAGG 699

(2) INFORMATION FOR SEQ ID NO:706:

10 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 710 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

15 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

20 (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1464UP

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:706:

30 GATCTTGGGC TTTTCTTCA GACCGGGTG GGTGTAGTAT TGTCTCTCT TAATGTTGA 60

GTTGAGGGG GACGAGAGG GCGCAGAGG GTCTGGGAG GCACCGGTG AAAGGGGCT 120

35 GTGGGGGCT TCCAGGGCA GCGCGGGTC GTGTGGTGG TAGTGTGAT GTTGGGGGG 180

GGGGGGGGC GACTGTGGT CCAGCGGGTG GCGTGGGAC GCGAGCGCG AGACTGGC 240

40 GTGGCGAAC TGTACTCTT TCTGGGGTC CTGGCGGGG CGTTGGGCG GGGGTCCAC 300

GGACGGGGC GGGACCTTGA GCGGTGGA GATAATGAC TTGTGTTGA CCGAGCCCTT 360

45 CGGATGCTT TTTGGCCAT TGGTTTGGG GCGCGGGTC TGGCGTGG GCACGGGGC 420

GGCGGGGGG GCATGCAATT CGTCTCTGTC TGGGAGACT GGGGGGGAT AAAGTGGCC 480

50 AGGATCGGT CCAGTATAGT GAGGTGGCG TTGGCGTCT CTGGGCTGC GTGGTGGTG 540

TTGGGGGGT GAGCGGGTG CACCGGTCC TCTGTGGG GCTTGGGCT CTGCTGGGC 600

55 ATGCCCCGT CGGTGCATG CTTCAATCG ACTTGGAGT CGTACGATC CATCCAACA 660

ACCCCGTAAC TTATCTOGAA GATGCGCTGC ATACCTATAC TGGTCGTTCA

710

(2) INFORMATION FOR SEQ ID NO:707:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1465RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:707:

GATCCACTTC TTGCGGACA AGACATTGGA GCGCGGCAAC GACTGGGAAA TCTACAACGA	60
CCCGGCGACC ATCGGCCACA GGTTCGGCTC CCGCGAGGAC ACGGTGAGGA TCTCAGAGA	120
GCTGTTCGAC CTGTAGGGGC GCGCGCTAGC TAGTTCTTTG TAATTGCTCG ACATTTACAA	180
TGCATATTC TATATACACC GCGCGCAGCG CTCAGCTGAG CAGCGGTACG TACGCCAGCA	240
CGAGCGCAAA CGTACCGGTG CACACGCGCA TCAGCCACTG CATGACCTGC GTCTTGACCG	300
AGTCGATTTC CATCTTCATA TTA CTGACCT CCTGGTCAAT TCGGTGTCA ATCTCCTTGA	360
TCTGCAGATT GTGGTTGCTG GACTCCTCCC GGATCGGTCC CTTTTCCAAC GAGAGATCCA	420
GCTTGAACCC TCGGTTCGCC TTGTTGATCT CCTCTGGGAG CCGGTTCGCG AGCTGCTCTA	480
GGTCGTTTGG AATCCGCTCC TGTTCGTTCT GGATGGAGTG GATCTGCTG CCGTCCGCG	540
TCAGCAATTG GTCCCGCAGT TTTCGAAAAT CCACCCGCTG CTGGTACGTC AGCTTCGTAA	600
GCTTCTGGCG GGACGCTAGG TCTTCGGAGA CATCGGTCAC GCGCGCGCG AGTGCGTCCG	660
ACATGATATC CACGATCCCA TTGCGCTGCT GCGTTGCTGA AGT	703

## (2) INFORMATION FOR SEQ ID NO:708:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 619 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1465UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:708:

```

GATCCCGCAA TAGCTTGATT CGATCGTCTG GTGGGTACC TGCTGACTT CTCTTGCTCT      60
TCTCTATGTT CGTTGCTCAC GGGCGGAAAA CCACTACAGC ACAAAAAATT CACAAGGTCC      120
GGCGCACCAG CCTTTTAAAT TAGCGCAATG GCAGCGAGTC CTGGTATATA AGGCAAAAGA      180
CGGAGGCGG ACAGCTACTA CAGGCTCATC GAGGCATGGT ATGTTGCGCG ACAGTGGCGG      240
CAGGCGGCAG GACTAACCTT GAIGTTGGAT AGAATGGGTT GTACAACCAC GCGGTGAAAC      300
AGAAAAAGTT GCTGGAGCAG GAGCTGAATC GATTTGAGCT CGGGGTGGCG GGGCGGTTGG      360
GGCTGCAGGG TTCCATATCG AGGCACTGG TGGACTGGA GGCACAATT GAGCAGTATC      420
AGGCGCAGGT GGGCAAAAG GGCAGCGCG CGGAAGCCCG CAGGCATGCG CAGCGGTTGG      480
GGAACTGAC GGAGTGGCA AGGAAGCGCG GGGGCGGTT CGAGGGGCTG CGGGCGGCGA      540
GCATGCAGCC GGTGGGTTTC CAGAGCGCG CGCAGCGCC GGAGGGCGCC GTGAACGAGC      600
CGGCGGCGGG GCGCGGCAC                                     619

```

## (2) INFORMATION FOR SEQ ID NO:709:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 715 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1466RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:709:

20	GATCTCTTAC TTTTCTACT CACCAATGTC TTTACAGAC ACCAGAGTC ACGGCGGCA	60
	GCTATCTGC CGTGTGGG OCATGCCCCG CCGCTGTAC TGGCCTC GTGCTGGG	120
25	TAGTCTACA GCAACGGAGC TTGCTCAAT TGGCTGCAT TCTCCGACC ACAGTCTGT	180
	TGTACGIGA CTCTACCG TCCGAATGT ACATTCTAT TTATCTACTT CTGCGGCT	240
30	TGCGCCACC ACATCGGTG CCGGCAGCA CACGACCG GCATCGGGC OCTGGGTT	300
	GTAGAACTGC GCACAGCAG GTACAGTGC CTCACGTGC GCGCGCAAC GGCGCTCTC	360
35	GTACCTGTG CGTTTCAGC ATGCTGGAT CGCATGCG TGGGCTTGC ATGGGGCTG	420
	TCCCTCTGG CTGCGCGGC TATGTGCAT GTTTGTGTT CTATCTGTG GCGGTACCA	480
40	CGTTGTTGTA CCAGAGTACA TTGTGGGGT GACCGGTGT AATGTACCC CGTGGGCCAC	540
	AGATGACCT GCACATGCC TCATTTCTTT GACCGCACG TCGCGGAGA CCGCCACAT	600
45	GGGCGTGG CACTCCAGC ACACCCACG GCGGCACTG CAAGGCTGC AGGTCCGAT	660
	GAGTCAAAAC AAACAGGTG TGGGCTGG CCGGTGAAA TCGACTATA GAGAC	715

(2) INFORMATION FOR SEQ ID NO:710:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 694 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

10

(A) ORGANISM: PAG1466UP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:710:

GATCTTATTA ATTTTGATGG TGCTATATTC TAAATTCAAG TAATGATAGC GCGTGATGCG	60
GTACGTACTT ATACATATAA CCGACAGTTC ACCATCGTCT ATGGGTGTAT GAAAATCACT	120
CCAGCGGTGC GACACGCCAC GTGTAATCTA GTGAGTTTCA AGTTCTTCTT CCTCATCGGC	180
AGAAAGTTTG CCGCGGGGGG TGAGGTTCCT GAGCGGCTCC TTGAGCTGCG CGATAAGGCT	240
ATTCTCCCTT TGAGCATGCA TGCGATACC CTCTAGAGAC ATATGAGCGG AATCTGCACC	300
ATCTAAACCA TGTTCGCTGT TGCTGCCAGT GCGAGCTGCC AGTTTGGGAC TGGACAGACC	360
TGCTGTGCGA TCTTTGTAAG AATCCTCGGT CGTTGCGGAG TTGGAATICA TGGTCCCAT	420
AGTGTGCAAG ATTTCCTCTT CTCTGTGTAG TTCCAGATCG GTACCTGTCA GATTGATCAA	480
GGACCTGCGG CTTTACGGC GCGAGAGCTT GGGCAGAAGA GAGTCCCCCG TTGGCGTGGC	540
TTACCAAGG TTTGTAATGG AGGTGTGAGA TCTCGGAGTC CTGTGTAGTC TCAGACACGA	600
AGCACCGGCA TCATGTATCC ACTTCGCAAC AAGCGAAGTC CAGCCACACT GGTGTGATGC	660
GCCCAAGCCC CTACCAAGTG CAACATOGAA GTAT	694

(2) INFORMATION FOR SEQ ID NO:711:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 690 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1467RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:711:

5	GATCGCAGAC TCCGCCGAG AGACTTTTCG ACCTCGGGCA CAGGTCTTGA AAGAGAGCTC	60
10	CGGCGGTTCG GTGCCAGACT CTGTGTTATC ATGTCCGTAA GAGCAGCGTT CGTGCCAGGT	120
15	ACGCCCTTCT TGTTOGTGTT TCCACCAATT GATGGAATTT GAGACGTGAA CCTCTGCCGA	180
20	TTCTTCTAT TGAGCACACC ATTGGCACCA CTGAGCCCC TTGGCTCTGC CATCCCTAAT	240
25	CGTCTATCC TACGCCCGGC TAATAAGTTA CTACCAGACT CTGCCCCCA TCTGGGACTG	300
30	ATGTATCGT CTGCAGCCAG ATCTGTGTTG TGACCCGATC GAAATCATCG AGTACGAATA	360
35	ACCAAGTGAC CATTATTCAC GTGATGAATT TGGCGGTCCC TGTTCGGAC TCTTACTCCA	420
40	GGTTAACCAT GACTAGATGG GCATACCTCA GATACGTTAT TCATGGGATC CGGAGTTGCC	480
45	CGGTCCGGCG AACCGCCCGG TGAATCTGTG CTGACGACCT AAAAAATAGT GTGCGCAAGC	540
50	TTCTTAATC TGTGAGATGC AACTGACAA ACTTGAAGGC TGAACCATCA AAGCGATACG	600
55	CCTCATGCAC GTGCTCAATA AGGTCCAGGA AGTCTGCCAA TGGGCAAGC AGACGGTAGA	660
60	TTGCAAGACA CAGACGATTG GGTGTGCCA	690

(2) INFORMATION FOR SEQ ID NO:712:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 700 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1467UP

5

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:712:

10

GATCGTCCGA GTCCAAATUC ATACCAAAAA TGTGGACCCA GGTACGGGAT TCGAACTTCT 60

CGAAGAAAAA TAGCCTCAGT GAAGTGCCCA ATTGCCTTAT AGTCGTTTGT CAGAGCATAT 120

15

AGAAATGTGG GACAAGGCGG TGGGGGGGCT TGTGGAGCC GACCGAAGAA GGGATCTGGG 180

CGGGAATTAC GGCGGTGAGA GGCAGGGGTG CGGAAGAGAA AAAGGTGAAG CGAGTTGTTG 240

20

CCATGAGOGA GATGCAGCAG CCAATACCTA TCCCAATGGT AAAGGAGGCG GTCCAGATGG 300

CCCAATGGCG GAGGGCAACA GGGCGCGCGT CCTTTTGGG CGGTCTCGCG TGCTGTTTCT 360

25

TGGACTTGAC GGTGAGCTGG GTTTCATAGC CGGACTCGGA CTGGTTGCAA AGGTTGTGCA 420

GGTGCTTGAG CAGGCGGTGC TTCTGTGGT GGTGGACAT GATTATAGGG CTGCAGTATA 480

30

CTCGSATGCA TTGCGGTGCG GTGTAGCGCT TCAGGAGAGC CGCCAGGTG CTCTTCTGGC 540

CCTTCTGGCA CACGGGAATC ACGGTGGGCG AGGGCGCCTT CTGGCACAGG CGTCAAGA 600

35

GCTCTGGCGC CTGCGCTATG TGTGGAAGA CCAACATAAC CGGAGGTAC CGCTGGCCCA 660

CGTCCCAGCG CGTGACCATG CGAGGTTCT TCACGTCAA 700

40

## (2) INFORMATION FOR SEQ ID NO:713:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 689 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

45

50

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

55



(A) ORGANISM: PAG1468RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:713:

10 GATCTGTGTG CTCATTGTGT ACCTGCAAAA AGTGTTCAGA AGGAAGGCAA CATGTGTTTT 60  
 TAATCCTACG GCGGTGGGCT CAGAGATTGT TCACTCAATG TGTTCATCA TTATGAATGG 120  
 15 GTGGGCGGCG CCGGCGGGCC TCGAACCGGC GGCACACGGC CTCGGGCGGCG CGCTGCCCCG 180  
 CTGGGCGCAG CAGGGTCCAA AACCCACCCA AACTCACGGC GGGCACCGG CTACACGGCC 240  
 20 GGCAGCAGCT CAGGTGGGCT TACCGGGGCT GCGGCACTG AAAATTTTTC GCGGCCAACA 300  
 CTATCGGGCC CGAAAAGCA ATTGCGGGC CAACCAACA AGGATCTGTT ACGAACAGG 360  
 25 ACAGGACTCA TGCCCCGTTC CCTTCTTTAT TTATTACTA GCTCCACATA GATATTTTTC 420  
 ATATTTATAT GGTGTGTTTT CTCGCGCAG CCGCAACCCA GCACTTAGCA GACCAAGGG 480  
 30 GCAGGACTG ACACCCAGCC AGAACAGAAC AACACAGGC GACCTTACA TGAGCATGGA 540  
 AACGCCCCCT GTAGATATG ACAACATCAT CGACCGCTTG CTGGAGGTGC GGGGCTCGAA 600  
 35 GCGGGGCGAG CAGGTGGACC TCGAAGAGCA CGAGATCGC TACCTGTGCT CCAAGGGGCG 660  
 CAGCATCTTT ATCAAGCAGC CCATTCTTC 689

40

(2) INFORMATION FOR SEQ ID NO:714:

(i) SEQUENCE CHARACTERISTICS:

45

- (A) LENGTH: 620 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1468UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:714:

5 GATCTCAGAA TTATCGGCTA GCAATTGATA TTAGCATACT TAATTGTGC TAAATACITTT 60  
 GGCATCGCAT CTAGACATAG GAAGTAACCT CAAAAAGCT ACCGAGATAG TAAACCTGGA 120  
 10 AGAGAGATTG CGCAACAACA ACGGCCAGTT GGAAAATAGA CCACCACTTG ACCCTGTCAT 180  
 TTGTAGACTC ACCAGTGTTT CTGTGTGTGC GTTCGGGAAT CTGATGTAC TGTGCTGCT 240  
 15 TCATTACTTC CATTTGTGAC ATGGAGAGCT TCGGCACCGC ACCCTCTAGC GTCTCGAGC 300  
 TGAATCAGC GGCATCGGGG GAGAGAACAC CGTAGGTATT AAAGTGACA TCCTTAGTCA 360  
 20 GGTAGCCCGA ATTGTGTTT CCAAAGCAGT ACTGGTATTT GGCATCTGTA GCGGCTTCA 420  
 AGGTCAACTC ACCGTGGGAC GACGCAAGCT GGCATCCAG CACTGACCGT CCGTCAATCC 480  
 25 CGTACACCAG CAGGTCTCCA GACAGCTGTT GATGTGATTG TGGTCTCTG TCGCCGAATT 540  
 GATAAGTGAT TGTACGACG TCCCGGCTT TCAACTGCTC AAAGAAACAG CCGCGCCCGT 600  
 30 AGGGGGGAAG AAGTACATTG 620

## (2) INFORMATION FOR SEQ ID NO:715:

35

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 686 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

40

## (ii) MOLECULE TYPE: DNA (genomic)

45

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1469RP

50

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:715:

55

GATCAACTAC ATCTGGGAGC AGCAGCGGAA TTGTAAGGTG GCCATCATAG CATATGACAA 60  
 5 GTGGCTGGGT TTCTTCAACC TGGGCCCGGA GTGGAGCCAG GCACAGGAGC TGATTGTGTC 120  
 CGAGCTCAGA GAAGTCTTCC TGGCGGTGTA CAGCGGCTC TTGTTGAGGC CTGGCGAGGC 180  
 10 AATGCATGTC ATACAGGACA CGTTGGTCAA GCTCGAGTGG TTTATCCAGG ACGACAAGCT 240  
 CTGGCAGGC GCCGAGGGGT GCTTCGGGTC GGCGCTGAG GCGGCGCTGC TGGCGCTGGA 300  
 15 CACTGCCACC AATGGTAATG GCGGCAAGAT CATTCGACT CTGAACAGC TGGCCACCGT 360  
 GGGCAACGGC AATCTGAGC TGGCGCGGA GAGCGGCTC AAGAAGAGCC TGAAGTGGGA 420  
 20 CAACAGCTTC TACACCGGC TGGCGGACAG GATGCTGAAG GGTACGTCG GCTCGACTT 480  
 CTCTGCACA GGCAGCGCT TCATGGACTT TGGCAGCTC GGCCACCCCG TGCTGGCTAC 540  
 25 CTCCGGGAG TTCCGCACT ACTCGAATT CCAGCTGAC GGCAGAGTT CCGCTGGGT 600  
 CAACGACATG CTGCAGCGG TCAGCAGCAC CGTCGGCTAC CAGGCGAGC TCAAGGTGG 660  
 30 CTGCTCTCG GGGCTGTGT CAGTC 686

## (2) INFORMATION FOR SEQ ID NO:716:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 572 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 40 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

45 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1469UP

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:716:

55 GATCGGGCGA GCAGGACTAG AGATGAGCAG CAATGACAGT GATTATCTCC TGGTTACCTT 60

CAAACTCTTC ACTCTCTCA AGAACTTGTT ACCTGATGAC TCCCTCTTAT TGTCTGTGTC 120  
 5 ACGCGCGGCC GTGTAGGCGT CTCTGTGTC CTCCTCTCG TCTCAAGAT AGCCAGAGTG 180  
 GGTCTTAGTC AGCTTCAGST TCCGTTCTT GGGGTUGGG CCAATGCGG ACGCGAGCG 240  
 10 AGGCTTTTC GCCAGCCTGT GGTCTAGAGA CTCTCTCTG CCCACGTGC TCTGCTTCAT 300  
 CGCCTCTATA GCGACAGGG CCGCGCGGC GCGTGGAGG AACGTGTGG AGCCAAGGCC 360  
 15 CTGTGTCAG GGCCTATCA CAAGGTGCG GGTACCTTG GCGTGAAC TGTCTACCT 420  
 CGAATGGTTC TTGATAGCGT TCACGTGCA GACGAGCGC TCGCGACGT CGCGCGCGA 480  
 20 ATACAGGTAC GAGTGTGCT CCTGTGCGT GCGAAGACC TGTTCATCG CAGACTTGTG 540  
 TCGGTGGCC CCGACAAGT CGAGTTGGC CG 572

25 (2) INFORMATION FOR SEQ ID NO:717:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 699 base pairs  
 30 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

35 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

40 (A) ORGANISM: PAG1470RP

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:717:

GATCTTCTG CTATCCAGAA ATGGGAAGTT CTCTAGACRAC GGGGAATTAA GCGGCTTTTC 60  
 50 CAATATTTTG ACGTGTGTT CATAGCTCGG AAGACGAGC AGAAGCCCC CAGTAGTGT 120  
 CTGTTCATGT TCGTCATGA AAGGTGTCT TATCAAATCT AGTCCATCA TCGCAGAGTA 180  
 55 GTTATTATCT TTCTTCCAAG ACAGACGCAC ATGCGGCAAC TTGTGAGGA TTACAGTAAA 240

ATAATGCTAG AACCGCGGAC TCACAGAATC GACGACCGCT CGAAATGAAG TGGGCGCGTA 300  
 5 GAAGATCGTG CGGCGCTGCT TCTCTATCAC AAGATGGAAC TCGAAAGTC TGTTCACGGG 360  
 GGACACCGTG CCCATAAGCT GCTTCTGCAT GAACAGCTGC GGTACCATCT CGCTCTTCAT 420  
 10 CCGCGCGAGC TCAGTCTCAA GCTGTGCGAT CGTCCGAGC AGCTCCACAT TGGCGGTTCG 480  
 AGCTGAACAG CTCGCGTGAG TTCACGTGCT GGTAAACTC AGACAGGTAC ACACACTGG 540  
 15 GCAGGCGCTT CCCAATACAT TTAGAGCACT TGGGCGCGC CTGTTCACAC TTGACGCGCC 600  
 GCTTCGCGCA GAACACGCAC GACTTCTGA CTTCCGCTT GGTTCACACA ATCTTCCCAT 660  
 20 CGGACTCTGC CATCCCGCCA GCTTCAGCAA AATGAGTAG 699

(2) INFORMATION FOR SEQ ID NO:718:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 655 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 30 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

35 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1470UP

40  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:718:

45 GATCGGGAC GTGGAACACT GCGCGGAGAT GCGCGCGCC ATCTGGTGG TTCTGCGGA 60  
 CGCAAGGAC ACGCCATCGA CGAGCGGTAT GCAGCAGAG GTGCACAGT CGGACCTCTT 120  
 50 CAAGGAGCGC GTGCGCAGG TGGTGGCGG GCGGTACGA GAGATGCGG CGGCGATCCG 180  
 CCGCGCGAC TTGCGAGCT TTGCGCGCT GACGATCAG GACTCGAAT CTTTCACGC 240  
 55 CACCTGCTG GACTCATTTT CCGGATCTT CTACATGAAC GACACTTGC GCGGATTGT 300

CAAGCTGTGT CATCTGATCA ACGAGTTCTA CAACGAGACC ATGTTGGCGT ACACGTTTGA 360  
5 CGGGGGTCCG AACGGGGTGC TCTATTACTT GCGGGAGAAC GAGGGCGGGC TCTGGGGCTT 420  
CCTCTCTGCC GTCTTTGGCG CCAACGACGG CTGGGAGACC ACGTTCTCGA CGGACCAGCG 480  
10 CGCCACTTCG CCGGGCAGTT CGACGAGTGC GTGGGGGGCA AGCTTGGGAC GGACCTGGAC 540  
GACGAGTTC ACAGAGGAGT TGCCCCGCTC ATCTTCACGA AGGTGGGGCA GGGCCCCAAG 600  
15 AACTAAATC CTCGCTCATC GACCCCGAGA CCGGCTGCC CCGCTGACGC TATTTC 655

## (2) INFORMATION FOR SEQ ID NO:719:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 708 base pairs  
(B) TYPE: nucleic acid  
25 (C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

30 (vi) ORIGINAL SOURCE:  
(A) ORGANISM: PAG1471RP

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:719:

40 GATCAATTAA CTATCTAGAT GAGTCTAATT AATTAAATATA CTTAAAAGTC CGTTAATAT 60  
CATTAGCTAC CCTATCGGAA CAGACCGTCT GCTACTAGGC CGAAAGGGTA AAGCAGTTGT 120  
45 CAGTCAGTAC TTGCTGTTC TTATGGAATG CCTGTCTATAT GCGGGCAGCT TGTTTGTAC 180  
TGGAGTACGG CCGGTGCGGC CTTGCAGAGG GTACCCATGA TTCTGAAGC CAAGGTACCA 240  
50 CACCTTCCTG CCACATCTCC TCGACCTCTT CCAAAGTCAA ACCCTTTGTC TCGGGACAA 300  
AGAAGAAGAT GTAGAAGAC GCAAGATCA AACAACCCAT GAACAGTAG CCGTAGTAA 360  
55 AACTGATGCG ATTGGTAATG TATGGTGTA AGAAGGCGAT CAAAAGCCC CATATCCAAT 420

TCGCGGCTGT GCGATAGCC ATGCCCTTGG CTTTGACTCT TAATGGGAAA GTCTCCGAAA 480  
 5 CAATGACATA CGCAATTGGG GCCCAGGTAG TTGCAAAGAA GAAAAATGTA GAGGCAGSTA 540  
 AAAACAATCA TAGCATTGCC TGCCGGTCTG GAAGAAGGCT GATCGGGTCC ATTGGGOCAT 600  
 10 AGTCTTGTCA CACCAACGGA GGC AAAAATA ACCATACAAA CGGCCATTGC CGCGGCACCG 660  
 TAGAAGCAAA CATTTCTCTC TGCCAAATCT ATGACAGTGT TTACATTG 708

## (2) INFORMATION FOR SEQ ID NO:720:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 718 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1471UP

## (vi) SEQUENCE DESCRIPTION: SEQ ID NO:720:

GATCTTCGCC TTCTTCTACA TGTCTTCTT TGTCACAGAG ACAAGGGT TGACTTTGGA 60  
 AGAGGTGAG GAGATGIGG AGGAGGTGT CTTCCATGG AAGTCGAGT CTTGGACTCC 120  
 40 TTCTACAAG AGAATGCTT ACGAGACTGA GGAGGTGAAG CCAGAGAAGA CCTGGGCTTA 180  
 AAAACTTTAA ACTACAACT TTTTGTCT GCTAATCATC GGGTTAAAC CTAAACCTAA 240  
 45 TCTATGTCA TTAATATTGT TATGACGTTC ACGAGATAGC ATATGTAAAT TACTATTAAA 300  
 AATATCGAT TAATCTGTAT TTATTAGTTG TAATTGCAAT GGCATATGAT ACTGCAAAGC 360  
 AATACATGCC GAGATAACCA ACGCACTGA GCGGGACTG GCGCCCTTCT CCGCCCGGC 420  
 55 GAACATGCTT GTGTTGGTG GCGCGGTGC CCGTCGCGG CCAGCGCAT GCGGTGTC 480

GGTCATCGCC CCACTTTCAA ACTTTGTAAT CGAGCAGGAA ATTAAGATTC GTTATAAATG 540  
 5 ATATCAAATTT TTTCGTGGTT TCTTTTCAGT GAGTAATATT GTTCGGGCAC CGCAGCGCGA 600  
 TGATCGCGCT ACATCGCACA GGGCCAAAGC ACAGGTGCTA AACTATTGCT TAGTTGGCGT 660  
 10 CGTTGAGCTC GTTTATGCTT AGTGGAAATAT CTGCAGCATA TTCAATATCA AGTCTGAA 718

## (2) INFORMATION FOR SEQ ID NO:721:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1472RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:721:

GATCTATCTC CCAGCTTAGA GAGACCGTCC GGATGTAAGT GATACCCAGA CAGCCAATGA 60  
 TACTGGTCAA GTTTTGTAAGT TTTATAAGAA AACATATATT AAACGGCTAA AGACAGAAGG 120  
 40 CGAAAAGCCC GACTTTTATG GCGGTAGAAG TGTGAAAAA GCGGAAAAC TATATTTCOA 180  
 CTTAGGGCTC CTCTTCTCTC ACGTAAAGCC GCATCATCAT ACGCTTCTG TGAGTCAAGA 240  
 45 GCACTACGAC ACGCGTGCA TTCCCTCATA CAACCTTGCC AACACATGAT CATGTCCAAG 300  
 GATATTGCTA CGACCCGAGA ACTGTCCGAA CCAGACAAGT ACTTCGTTGA GCAGCGCGAT 360  
 50 TTCTGCTAC AAGAAATCAC CTCCACGTTA GACTCCATCC TGAACAACCT AAATGGCCTG 420  
 AATATTTCCC TGGAGAACTC CATCGCAGTA GGCAAAGAGT TTGAGAGCGT GTCCGAGCTT 480  
 55 TCGAAGGTCT TTTACGAAGG ACTGCGAAGC GGAGCGGCTC CTGGAGTTGC CGCAGCCAAC 540



CCGTGCTCTC AGGACCTGCC CACTGAGCCC GTGCGCGCGC ACCAGAATGC TGCAGCGGGC 600

5 AATAGTGAAG CACCAGCGCC ATGCGAGTAG CGTTTGCCTT CTGCCCCTGC TTACACCCG 660

TGCACCCACA TTGCGCTCTA CTTTATGTG TCATC 695

10 (2) INFORMATION FOR SEQ ID NO:722:

(i) SEQUENCE CHARACTERISTICS:

15 (A) LENGTH: 719 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

20 (ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

25 (A) ORGANISM: PAG1472UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:722:

30 GATCTCGATT GAATGCCAAT GAAGGTTTAT GCGCGTCACG GGAGGTATAA CAGACTTGTA 60

35 ACGACTTTTG GTAAGACCCA CGGTGAGGAA GATAGCTGGT TTAGCAGOGA CGATGAGAAC 120

CACGCCAGAC CAGTTAGOGA CGACACAACC AACTCAGGC TGAGCCAAGA TCGATGCAGC 180

40 GAATTACCGG AGGAGAOGAT AGGTGOGAAT AGAAAACGTC CGCGGAGOG AAGGCAGACG 240

GATCGGGTGT GGGAGTTTCT GGAACGGCGC GCATCGGGC AGAAGCGGAG AAGACGACA 300

45 ACATGCGATT CTACAGAATA TAGAGAGAGT GCCAGTCAAG AGTTTCTAAA CCTGTGAAC 360

GTTGTGCAGG GCATAGTGTG TTCTCTCAAG CCTGCAAAAG AGTAGTTGA GCACTGGGCG 420

50 GAGCTTGAGG ATGTGCCAGA GGATCGGGC AATAACGGC AGCGGTCTA TGGCAAAACA 480

AGAACATGCT TGCAAAAGCG GAAGAGGATT CTGACACCGA AGCTGCTGCA CATGAGTCTG 540

55 ACGAACCGCT GCACAGGGCG ACGAACCACT ATGCGGCAC TTTAATGAGC TGGTACGAT 600

GGGCGAGACT CTTAAGTACA GCGAAGATCT GGACTTTTATA TTGTCCGACA ACTCCATGAC 660  
 5 GACACCCGAA CATAGACGCA CCACATGCTG CGCTTGTGTC TGGATATGAT GAACAACGA 719

(2) INFORMATION FOR SEQ ID NO:723:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 675 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1473RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:723:

GATCGATCA TCTGTACAC CAAGCGGAC GTCTGGGCG CGCCACCCC CGCCGGGCTC 60  
 30 CACCGCTGGC ACGCGAGAC CGCGAGAC TACATGCTCC TCGACGCGCG CAGCGCGCG  
 GACGCGCGCG CGCTGCTGC CGCGTGGC GCACGCTACG ACGCGCGCG TCGCGCGCG  
 35 GCGCGCTCC CCGTGGCTA CCGCTGCTC GTTCGGGCA TCGCCAAAGT CGGCAAGTCC 240  
 ACGCTGGTCA ACGCGCTCG CGCTCGGC ACGCGCGCG GCGCAAGT CGCGCGACC 300  
 40 GCGCGCAC CCGCGTAC GCGGCTACC AGTGAGTGG TCGCATGC CGATCACCG 360  
 GCGCGCTCT TCATGACGA CACCGCGCG GTGCGCTGC CGCGCGCG CTCTCGGTG 420  
 45 CGCGGATGC TCGCGCTGC TCTCGCGCG TCGTGGCG CGCGGTGT CGACCGGTC 480  
 ATCCAGGCG ACTACTGCT TACTCTCA ACCTTCAGG CCGCGCGCG TCTAGCGCG 540  
 50 CCTACAGCG CCGACCAAC GACATCGCG CCGTCTGC CGCGGTGC ACCGCGACC 600  
 GCTAGCTC CGAGACGCA GCGCGCTGC ACTGGCTGC CATCGCGCG CGCGGCTCT 660  
 55 GCTGGAACC GGAAG 675

## (2) INFORMATION FOR SEQ ID NO:724:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 703 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1473UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:724:

```

GACTAGAGG GAGTTATTAT GCGCGGGCAC CTCAGCGAC TGATACTCAA GAATGTGGCC      60
TCGGTGGGGT GGTGGAGGTT CCGAGAGATC CACGAAATTA CGCTAGATCC TAATAAGTTT      120
ACCAAGAAAC AGGGCTTTGT GGGAACTATA CAGGGGOCAG ATCAGGATCG GGTGGAAGTG      180
CGGCAGATAA ACAGGGCTGT CATGAGTCAG GACACATACT TCCACTTTGA TAGTCTTTTG      240
AGGGCCAGGT TCCAGAACCT CAACTACATC AGTCTGCACA ACGTTTCCGA GGAAATTAAT      300
GGCATCATAG TGCTCACC GACTGTATTC AATGGGCGCA TCAGCATTC AGGCTGGCTC      360
GTGAAGGGGG TTGTAATGAT CTAAACTTGC CCGGATATCC CTATGAGAA ATAAACACAT      420
GGGTGAAGTT ATACATAGGC GCGAAGAAG CCGCTTGAAT ATTGATAGAC CGAATAGTGC      480
GATCAATGTA ATTAAATAGA TAGGTTACAG CCTACCGGG CTGGCATTTC GTCCGAGATT      540
GGTCTGCTC TACCAAGTCA GCCAGTTACC GGAGGGTGAA GTAGTAGGAC ATCATAACTC      600
ATAAAAAACG TTACATTCGT TGTGCTTGTC GCGAAATCAG TAATCATGCA GGTCCGTGCT      660
GAAACCGAAG GAAACGTAAT GCGTGGGAAT AAGTAAAGA TGC                          703

```

## (2) INFORMATION FOR SEQ ID NO:725:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1474RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:725:

GATCGTTCAG TTTAATCACC TGGAGCGCAC TGCCTTGCGG TTCCAGCACT GCGTGAACT 60  
 TGGCCAGGCG TTGCATCAGC GCATTAGCT CCTGTACATC GCGCTGTGC TGGGCTOCA 120  
 GCTGCAAGCG CAGTTCAGCG CTGATATGCT TCCGCCCCCG TGTAGACATC TCGGCAAGC 180  
 TAGGGTAGCT GCGCGACCGC CCGAGCGCG AGCTGGCGGC GCGCTGTCA GCGTCTTCT 240  
 GTGCCCCCAT TAGTGGCGT ATCATCTCT CGATCCCGC GTTGGCCATC ATCGGTATGG 300  
 GTGTGTGTGA ATGTCAATT ACGCACTTC AGTCTGTGC CAGGTGCTA AAATACTTGT 360  
 CTTTTTTGCC GCGAGGTGG TTAGACCGC CCGTGGTGT GCTCGAAGC GGGCTCAAGT 420  
 GCGGCGCGG GTGGCTGCTG CTGTGGCTCG ACAGGAGCG TGCATAGTCT GCGACCTCT 480  
 GATGCGGCTA ATATTCCCAT CGCTATCTGC AGGCTCCAGC GATGGCGAGC CCAGCTGATT 540  
 CGACTTCGCC GATGAGGCG TTTCCACGA CTTCATCAGC GAGCCACAA GCGACGAAGA 600  
 TGATGAATTT GACTTTTGGT ACATTTCTTT GGACCCATTC CCATTATGGG GAACGCTCT 660  
 GATAGCCATC ACAATGTATA GCTCGCTACT CTGAACCGCG TGGCAACCAC TGCAAC 716

## (2) INFORMATION FOR SEQ ID NO:726:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 699 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1474UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:726:

20	GATCGAATTC TCACAGGCCA GTACCTGGGT ATTACAGGTT TGCCATAGTA TGATTAGAAC	60
	CGTAAAGCCC AAGAATGCCA GGGCCAAGAG AGCTCTGGAG AAAAAAGAGC CGAAATTGAC	120
25	GGAGAACGTG AAGCAAGGCG TTTTAATTCC TGGCCAAACT TCGAATAAGC TTTTGCACGA	180
	TGTTATGGTG GACCTTGGTG GACTCAAGAA GCTGATGTG AAGCGCTTCA CCGGAAGAA	240
30	CGAGCTTGGT CCGTTTGAGG ATCGGTGGG TGTGAATTT CTCAGGAGA AGAATGACAG	300
	CTGGTTGGTG GTGGTCTGCT CCACTCGAA GAAGCGGCGC AACAACTTGA CATTCATAAG	360
35	GACGTTTGGG TACAAGGTTT ACCACATGAT GGAAGTGCAG ATTGCAGAGA ACTACAAATT	420
	GCTAGCGGAC TTCCGGAAGC AGAGGTTTGC AGTGGGGTTC AAACCGATGT TTTCCTTCCA	480
40	AGGTGCGGCA TTGACTCTC ACCAGTATA CAAGCAAGTC AAGTCTTTGT TCCTGACTT	540
	CTTCGGCGGT GAGGTGACCA AGCTGCAAGA CGTTGCAGGG CTTGAGCATG TGATAGCAAT	600
45	GACGATCCAG GCGACTTTG AGGATGGCGA GGCATTGCCC AAGTCTTTT TCCGGTCTA	660
	CAGGCTTAAG ACGTACAGAA GCAGCCAAGG TGGTAAGAA	699

(2) INFORMATION FOR SEQ ID NO:727:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 749 base pairs  
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1475RP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:727:

GATCGAGCCA	ACGAGGGCAT	CTGCAGGCAC	ATGTTTGATA	ACGTACCAT	GATCGAGCAA	60
ACCGAGGAGG	ACCAGGGGCG	AAAGAAGGGC	GCCTTTGCTG	TTTGAAGCGG	GATCGTGCGG	120
CGTCAACCG	TAAATAGTCT	TATAGCCAGC	ACGCCAGGCG	CCGGCCGGTT	CCTATGTAGT	180
CCTGCAATCG	CTCGTTGCT	AGCGCACGA	TCACAGAATA	CAGCTACTTT	ATCCTAAATC	240
CACTCCTATC	AAAATATCCA	GGCGGACAT	TTGTTCTCTG	TCTGTGGGA	TGTGGGGTTC	300
GCCATTGTGG	AGTAGGGCGG	CACTCGGAC	AGCGACACA	GGTGGCCATC	ACAGCTGGCG	360
GTCCCGTGT	CGTCCCTGGA	ATCCTGCTCC	AAGCCTTCT	GGTCAAAGCC	AGCCAAGCTC	420
CCCTGTCTGA	TGGGTGCTC	GACCGCTGCG	TCCAGCAAGT	CCTGGTATGG	ATCTGGGCGG	480
ACGCTTCTGG	GGGCGGCAGG	CGTGTGTGTA	AGCCAGTCGC	ACAGAGAGGG	TGTGGCTGTT	540
AGCGCAACAG	ACGAGGGCGC	TGTGGCGGCC	GCATGGGCGG	CCGTCCCGAA	TCCGTGGGGG	600
TTTATGTAAT	TGCTGCCCTG	GTCGGATGIG	TATTGTGTCT	GCGAACGGGA	AATCGGGGAC	660
GCAGGAAGGT	TGGCTGGCC	GCCATGTTTC	TGGCAGCTCT	TGGTTGGGG	CACCAAAGCC	720
TCCTTCTGCA	GCATCGGCCC	TGAGCCGTT				749

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(2) INFORMATION FOR SEQ ID NO:728:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 740 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

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(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1475UP

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(xi) SEQUENCE DESCRIPTION: SEQ ID NO:728:

GATCTTCGGT CCGGAGTACG GTGGTCTCTT CGAGATATNA GCACCCAGCG CAACTGTATC 60

20 AAGCTAACCA ACACAGTKCG CAGGCTTTTC GAGCGAGCT CAGGCGGAG GTGAACCAGC 120

TCTGAGACAG ACAGAGCGCC CTGTTCAGA AGTAGCTCAA TAACAGTCC GGCTCGCTCG 180

25 CCGAGGTGGG ACCCGCTAC CTCTGTGTAC AGGAAGGTTT CAGGACTCAA TGCTCTCATC 240

TCCAGTGTGG ATACCGGCAC CTCGGCAGCA CGCTGTTTT CGACTGTCC AACTGCAGCA 300

30 CCCATAGATC CGTTCATTAT GCACTAGGAC CTCGCCCTCA CTCAGGCCA GGGCGGTCTG 360

GAAGCAATA CTGGCTAGTG CTAGTCCCA CCTAATATCT ATCTCATGGC CCATCGAGCA 420

35 GGGGGCCAGC TAAAAATCA CCACTGGGGG CTCACCAAGC ACGGTTCACT AAATACGAAA 480

CAGTGTGTGG TCAGGTGTG CTCAGGTGAT TTACCCGGC CGTATAATA TGGGTTCTC 540

40 AGCGGCGCA GCCAAGGACA CTTCCTGTAT CATAACAAAC CAGCACAGGC GGTAGGAGCT 600

ATCGGCAGAG TCCCAATACC CTGCTACTG TTGACATTAG GTGGTTCAA TGAGTGTCTG 660

45 TTTAGTGGTT ACCAAGAGTG TGGGACAGC CACATTGGG ATCTACACCG GGATGGTGGT 720

AACGGGGCAG TTGGTCTTC 740

50

(2) INFORMATION FOR SEQ ID NO:729:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 707 base pairs

55

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

5

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

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(A) ORGANISM: PAG1476RP

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:729:

GATCGTATG CTAACGTAA TATCGAAGA AGCAGAGACA TCCCGGAAA ATGACATCTC	60
AGTGACACTC TTCAACAAAT CATAAGAAGA AAAGTAATG ACTAATGCTT GCAGAAAAAT	120
AAATTGCTCG CTACAGTAA GCGATGTTAG TAGCGTGCCA TGGCATTCAA TAAATCGTAA	180
GAGATACGTG GGTGGTATCT CGATGCTTTT GAGGTACGCA AAAATTGGGC CATATAAATC	240
GATCTTGAAT GGTAGCTTTT TGCATATCGA TTCTTCAAGA AGTCGTGTTA TAAGTCTTTT	300
ATCAGAAATG TGCATAGACT GATGCAGGAG AGCACTTAGC ACATGCCCTT TATTCTTAGG	360
ATAGAGCAAA TATTCTTTGA ACGAAGCTGG GTCTTTCCGG AAGTCAGGCT TCATACCATA	420
AAGGTACATG TATACATTCC TTGCGACATC CATATCTCA ATACTGCTTT CAAGCATGCC	480
AAGGTAAAT TGTAGGAAA ATTGGGTAC CCAGGAATGC TGTGAAATT GGTCCAGAG	540
TTTGTATGCT GTCTTGGGT GGTCTCTTGC GACGGCCAAC AGGAAGTTGG GACAGAACCA	600
GCGTCTGACA GGAATCAAG ACCATCTGTT GAGCGAATTT GCGTGAAG GCGATCAAGC	660
AGCTTCACAG CAACTTCCAG GGAATCTAAG CTGACAAGCC CAGCTAC	707

(2) INFORMATION FOR SEQ ID NO:730:

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(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 635 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

55

(D) TOPOLOGY: linear



# EP 0 866 129 A2

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1476UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:730:

GATCTGAAAC TAACAACAGC AGTGGGTGAA CCAAGAGCCA TTGGAGGGGT ATGACGGGGT	60
GTGCAAGGC AAGTACACTA TGGCTTGGG CCAGACCAAC ATGAGCTTTG TGAACGACCG	120
CGAGGACATC TACTGATGT GTTTGACCGC GTGCTGGAAC TTGATGAAGA ACTACGATAT	180
CAAGCCCGAA AGCATCGGC GCTCGAGGT GGGTACGGAG ACGTTGCTTG ACAAGTCGAA	240
GTCCGTGAAG TCTATTTTGA TGCAGTTGTT CCGCGAGAAC ACGACTTGG AGGCTGTGGA	300
TACCGTGAAC GCTGCTATG GCGTACTAA CCGTTGTTT AACTCCTGA ACTGGATTGA	360
GTCCAGTTG TGGGACGGTC GTGACGCAAT CGTTGTTTGT GTGACATCG CAATCTACGA	420
CAAGGGTGCC GCGCGGCCA CTGGCGGTGC GGGAACTGTC GCTCTCTGA TGGTCCAGA	480
CGCCCCCAT TGTCTTGA CTGTGGTGG CTGTTACATG GAGCACGCTT ACGACTTCTA	540
CAAGCCTGAC TTCCGAGTG AGTATCATA CGTGGACGGC CACTTCTCAC TAACATGCTA	600
CGTCAAGGGC CGTCGACCAG GCTTACCGG CCTTA	635

(2) INFORMATION FOR SEQ ID NO:731:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 719 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

(A) ORGANISM: PAG1477RP

5

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:731:

10 GATCTTTGGG AGGGACCACT CTGCAATCCA AGAAGACTAG AGGAGTTGTC TAGGACAACA 60  
 AAGTTTATAA GGAGACTTCT GGTGTTTTAC CGTCTTTTC GATACCGATT CTGACAGTA 120  
 15 TATTCAAAGG CCAATAACGC CAAACAATAC GTTAAAGTTG GCTGCCAGTT TTTCAACACA 180  
 CTACTACAAC ATTATGAGGG CATAAAGGTG CTCTAGATG ATAGCAAAAT CATCTCTCAG 240  
 20 CTGCCAGTA CTCTCTATAA GGCTATGGAA GGGCATATTT TACCCAGTAA GCTCTTCTCC 300  
 TCTTGGGCTC TCCAGAATAC GTTATGTGGC TCTTACTTCA AATTCTCTGG AATGCTAATG 360  
 25 AAATCTAAGG AAGGAATCAA TATATTAGAA AAATGGAACA TGTTCAGTGT CATCTATAAA 420  
 ATGTTTCAGC CATCACCCCT AGCGAAGAA TATTTGTTAC TCATGCTTCC AGAGTTGGAC 480  
 30 CTCTCTCACA GCATACATTG TAGGATTATT TTTAGCAAAG CGCTAGTGA CAGTAGAGAA 540  
 GTCATAAGGA TCAATGCTAC CAGGGTTTTA GCGGAAATGA TCAGCAGGT CAAATTATCT 600  
 35 GATCCCACTC TGGAAGAGTT CATGTTAAAC CTGTGGTGG CTGAGTTGTA CGATTTATCG 660  
 AGTGAAGTGG TAGCAGTGGC CGACCAGATA CTGTACCATT ACIGTTTAAG TCAAAGTAT 719

40

(2) INFORMATION FOR SEQ ID NO:732:

(i) SEQUENCE CHARACTERISTICS:

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(A) LENGTH: 726 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

50

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

55

(A) ORGANISM: PAG1477UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:732:

5 GATCCGAATG TCCTTAGTCT GTGGGAAGGA ACCGATGGTG GTGGTTGGGA ATAGCGGGAG 60  
 CTTGAAAATT GGCTGCTGCT CCTTGAGAGG CTCCCGAAT GGTCGGCTC TGTGGATAG 120  
 10 CTTCTCGTTC AAACAGCAA CAGTCTCTGG ACAGCAGGAT CGTTGGTGAT CGCAGAGCG 180  
 GCACGGCAG CAATCGAGTC TGCATTGCC TTCAACTCAG AGGAAAAGTC TTGCCAGAA 240  
 15 GCGTCTTAG CGAGGACAAC AACCTCATC AGCTTCTGGG TTGCAAGA GAACAGTCC 300  
 TTGATCTCTG GCTCCAAGGC AGACTGTTT TCCAAGTCAA CTGGAGTGTG CAACAAGGAA 360  
 20 GAGGAGTGG CAACAATAAC GGGTCCCTT CCTAGTTTCT CAATGGCTT AGAATAGTG 420  
 GCAGCGACT TGGGAAGTC ATTCTTCAG ATGTTTCTAC CGTCAACAAC ACCTACAGC 480  
 25 AACGACTGGT TTTCGCCAAC GATCGCTAGA AGTGTGCA ACTGCTCTGG GTTCTCACC 540  
 AAGTCGAAT GTAGGCCAGC CACTGGAAGA TCACAAGCG CCTTCAAGTT CGGAACGACT 600  
 30 GTCCCGAAGT AGGTGGTCAA CACAATGTG AGAGCTTTT CGCACTAT ATGTTTATAA 660  
 GCGTCTTAA ACCGAGACTG TAGTCTCTT GCAAGATCTA AGACCAACAC AGGCTCATC 720  
 35 AGCTGA 726

## (2) INFORMATION FOR SEQ ID NO:733

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 675 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1478RP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:733:

5 GATCATTATG CATTTTATGA TATACACTGC TATCAAAGAC GACCAGTGG TAGTGAATAC 60  
 ACACCGGCTG GCAGACACAA CCAATGCCGA GGATGAGGCT AGTGAGGAG AGTTAGAGGA 120  
 10 GCTCGTTAGT AGCACTGCAC ACAGCGGCGA TGCTACTAGC GAGTGAAGAG GTATTTTACC 180  
 TGAGCTTTGG AATATATAGG TAGGTGATGA GCTTACAAAT ACGTATTGGC TAACAATGAA 240  
 15 ATGCAGGAAC TCCTCAAGCT CTTTAAGTTC TGTA AAAAAG GTATCAAAAA CCGTTTTTCC 300  
 AGCGCTGTCT GCGTAAATGA CTTGATTAT CGCATTCGAA TAGTTGCTGC TCTTCAAGGT 360  
 20 CAGATCTATG AGGCTTTTIG CGCGAGGCT GGTACGAGT TCGCTGGGTG GCATGCGGAG 420  
 GATCTTGTC AATAGGCTTA TCTGTTTGTT TAGGCTAGCG ATGTTGGCTT CAGGAGCATG 480  
 25 GAGCGTATCG GGCTGCTTC GTGTGGAAG CAGCTCGATG GACGAACCAG GAACAATGTT 540  
 CAAGACGCAC TCGTAACAA CTCTTTTAAC CAGCTGTAAG TAGTTTCTAT GCTTATTCT 600  
 30 ACCCAAAACA GGTCTTAATA GGAGAAGGTC ACCATCAGCT CTATATTTAT GCTTGGAGT 660  
 TGCTGGCTTG AGGOC 675  
 35

(2) INFORMATION FOR SEQ ID NO:734:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 706 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 45 (D) TOPOLOGY: linear  
  
 (ii) MOLECULE TYPE: DNA (genomic)  
  
 50 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: PAG1478UP

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:734:

5 GATCTGAGTA TCAAGATACC ATGAGOGATT CTGTCTCACT CTGTGTAOGGG ACTGCCCCGC 60  
 TTATCCAAGT GCAGACAAGA TGCAACATGC ATACTGGCAG ACCAGGCCCT CTGATCATC 120  
 10 GAGTGTCTTT AAGCAACATA GTAGGAGGCT TGAAGGAGG AGTTCTTCGG CTACCTATGT 180  
 AAGAGATGCA GCGGATGGTT ACTGCTGGTC ACGTCTAGA ATCATATAAC ACGGAAAAGT 240  
 15 GGATATGTTG CTGCCCCTTT AGATAIGGCA GTTTTGCCAC CCTACTTGAC ACAGCTGTAA 300  
 CAAGTTGAC TAAGGATAAA CAAGAGCTAC TGCAAOGG CTATOCATAC AATGACATCT 360  
 20 GATCTAATGG AGGTGGACTC GCGCCATACA CCGATGTTT ATAGGCAAG CAAGGACAAC 420  
 GTTGACAAGT TTGTGATCT GCTTCGCCAG GTCTCCAAGA CTACTATAAC ATTGGACTCC 480  
 25 CGCTATGTGT GGAAGTCTCT TCGGAGCTA ATGTCTTTGC GCAAGGAGCT GCAGCAGCAG 540  
 ACCCTACCA TCCTATCAC GCTCTATAT CCGAGGACT CGGCATTCAA GGTGCCATIG 600  
 30 CTGTGTGTGG TGAACCAGAA CTCAAAGCA GGTGAGGA TCGGAGGCA TTCCAGGGCA 660  
 AGTACCCCCC AGACTTTATC AGCTGACTGC TGACGGCAAG ATTGAC 706

## (2) INFORMATION FOR SEQ ID NO:735:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 695 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1479RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:735:

GATCGGCTTA CAGTAGCATT GTCTCGCAG GTTGCCCTGOC TCAATTTTAT CCGGGCCCTC 60  
 5 GAAGAACTCC AACTCGAAGA GGAAGTTCST GCGGCACTGG CATAAATTGT CTATGCCCAG 120  
 CCGCTGTTGG CAGAACGCAT GCTTCACTC TGCAAACTGC TGCACCTCGA ATTGCGCGAT 180  
 10 CAAGAGCTGT AGCTCCACGA GCGCATCCTT GGTAAACCTG CTGCGTCCGG AGCGGTGGGC 240  
 GCAACGTTTG TCGATGCATT CGTIGATCTC CTCTGTTAGG TTGCGTCTG TGTGGGGA 300  
 15 ATTCTGAAA AGCGTCGGGC GCACTATCTC CCGCGCTGAA GGCACCTTGT TCTCCTTGT 360  
 CCGCTGGTGG TTTTCGTAGG GCGAGGTGAC TGATGATGA TCATTCATAA AGCTGTTTTT 420  
 20 ATTCCGGAGG CTGGGCTTGC GCTGCACTT CAGTCAAAT TGTTCAAGC CCGTCTTATA 480  
 AGGTCTTTTC TCCATTATTA TAGCACTATG CCAAGATCCA GATGTGGCAA TCTGGGATTA 540  
 25 CTAGACCTGT TCGGCCAGCA TCGAGTCTC TTATATACAC TGGCAGTTG TGTCTGACAC 600  
 AAAGACGTAA AATTGGGACT ACGAAAAGGG AGTCGCCAAA CAAGTGCAA ACGTTGTAAA 660  
 30 AGGATAGTGT ATATTATAC TATAGTAAT TATGT 695

## (2) INFORMATION FOR SEQ ID NO:736:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 716 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1479UP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:736:

55 GATCGGGCA TTACGGTGCC CATCTACGAG GAGGACATTG TCGGGGACCA GGGCGGGAAG 60

GAAGTAGACG GGCAGCCGCA GAAGCTGGGT TGGTACCGGG CCGGGGCGGG GCGCTTCTCG 120  
 5 AACACGCTGT CCAACCTGCT TCCAGTATC AGCGCGAAGC TGCACCACAA CCGGAAGGGC 180  
 CCGACGGGGA AAGTCGGGCC GTCTGCTGGG GACGCGGACG CCGGAGCGCG GTCTACCGTG 240  
 10 GTTCGGGAG AGATGGCGGG CAGCATCAGC CCTCCGCGAG ACCTACATAA CGTGGTCAGC 300  
 TTCCCGGAGC CACACGGGCT TGCACAGCCA CGCACTTCCA GCGAATCGTA TACGTATGGT 360  
 15 TCTGGATACA GTGGCCACCT GCAGCCGACA GTCTCCAACC CTGCTACGGG GACTCGGAAT 420  
 AATACGTAT CTTCGAGAT TACTTCGCTT TCAAGCATGG GCGAGCTGGG AACCCCGAGC 480  
 20 ACGAGCAACA TCTGGACCAA CAATGGCTCA AGCCCGGCGAG ATCCAATCAG CAACATGCTC 540  
 ACGAGCGAGT TCAACCGGAT CCGCTCCGCG GACTTTGGCC AGTCGAACCTA CTACGAGTA 600  
 25 ATCAGCGAGC AGCAGCTTC GCAGTGGAG AACTCACTGA ATGTCGCTC CCGGGGTAAAT 660  
 ATTCTGGGA AAAACGTACT CGTTCTCAAT CTAATGCTTC TAGCATATAC GCAGAT 716

## (2) INFORMATION FOR SEQ ID NO:737:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 748 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: DNA (genomic)

## (vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1480RP

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:737:

GATCTCTGA GCGGAGCCCT ATCCCAAGTT TATTCCAACCT TCTTGCGGAA AGGTAACAAA 60  
 55 CCGTTTATTT ACATGAGTTT ACACATACA CCGGAGAATG TTGATGTAA TTGTCATCCT 120

180 ACAAAGGGTG AAGTACGATT TTTGTATGAA GAAGAGCTAA TAGAGGCGAT TGCTAATTGG  
 5 CTCCATGAGC GGTATCTCA GCTGGATACT TCGCGAAGTT TTAAACGGG CTCTTTGACA 240  
 CCTGGGAAAC ATAGTTCAAC TGTGTCTCC GCATTCCGJC AATCAGCGAC CCCCAGCAAGT 300  
 10 ACACAACCAA AGGCAAAACG TGCAGAAAAC ATGCTTGTC AAGCTGATGG TAGCCAAGCT 360  
 AAAATTACTA ATTATGTCAG AGCAAGTCAA AGCTCTACCA GCTCATCCCT TTCCACTTCT 420  
 15 TTAAGAAAGA AATCACAATC GGCAGCAAGT GATGAAGTTG GCAGCATTGG CGAGGACTCC 480  
 CAAGATACAG CAACATCGAT GACAACCTCT ACACAAGAGC CTAATCATAC CAAGTCTAGA 540  
 20 GCCATTTEAA CCTTATTGAA TAATGAGTAT GAAGTCGTAC AGCGGGAAAG AACCGAAGTA 600  
 AATCTACCA GCATCAAAAC TCTAAAGCAG GAAGTAGAGC AAGATATGCA TAAGGGAATT 660  
 25 AACAAATGTC TTTCAGATA TGACCTATGT TGGTGTGTT GATGCAACAA GCGGACTTGC 720  
 ATCTATACAG CATGGTTTAA AGTTATTT 748

(2) INFORMATION FOR SEQ ID NO:738:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 727 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(vi) ORIGINAL SOURCE:

- (A) ORGANISM: PAG1480UP

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:738:

60 GATCGGTCA TGGGATACAT AAACCACGGA ATCAATGAAA AGCTCGCTTA CGAACAGTTT  
 55 GGATCTGTAC CGGAGAAGGG CTACTATAAT CCTCCACAA TATTTCTGGA CGTTCCTCAG 120